

**United States  
Environmental Protection  
Agency**

**EPA Region 3  
Philadelphia, PA**



**Volume I**



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## Introduction

The U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Office of Surface Mining, and West Virginia Department of Environmental Protection prepared a Draft Programmatic Environmental Impact Statement (DPEIS) on mountaintop coal mining and associated valley fills in Appalachia.

The Notice of Availability of the DPEIS for public review and comment appeared in the Federal Register dated May 30, 2003 (68FR32487). The notice announced a 90-day comment period ending August 29, 2003. The period for receipt of comments was extended 130 days to January 6, 2004 and then an additional two weeks to January 21, 2004, based on several requests from stakeholders. Comment period extensions were published in the Federal Register, announced in news releases, and noted on the agencies' web pages. Requesters for comment period extension were notified by e-mail of the extension. The public review period was scheduled to provide concerned agencies and the public an opportunity to review the DPEIS and to offer comments on its adequacy.

The Federal Register notice announced that the DPEIS was available on the Internet at <http://www.epa.gov/region3/mtntop/index.htm>. The other agencies maintained prominent links to the EPA website. The EPA has distributed copies to known interested parties and organizations, local agency offices, and public libraries as indicated in the document at Chapter VII: Distribution List. An EPA Region 3 toll-free EIS request telephone hotline was in operation during the comment period to allow persons to request copies of the DPEIS. Approximately 140 hard copies and 600 CDs of the DPEIS were distributed to agencies and to interested members of the public.

The Corps of Engineers led a communications team for the agencies and distributed a press release on May 29, 2003 to the Associated Press and

United Press International. The news release was posted on each agency's web site. A press teleconference was held with twenty national and local media contacts. Follow-up interviews were conducted with other press contacts that could not participate. Wide national coverage of the availability of the DPEIS occurred in print and broadcast media. The news release announced the release of the DPEIS, summarized the DPEIS recommendations, provided brief background information, the libraries where the DPEIS was distributed and contact persons for additional information.

The public was invited to provide written comments during the comment period and oral comments during the two public hearings. Written comments were accepted through the mail or by placing them in a 'comment box' during the public hearings. Comments were also accepted through e-mail at: [mountaintop.r3@epa.gov](mailto:mountaintop.r3@epa.gov). The first hearing was held on July 22, 2003 at The Forum at The Hal Rogers Center, 101 Bulldog Lane, Hazard, KY 41701. The second hearing was held on July 24, 2003 at the Charleston Civic Center-Little Theater, 200 Civic Center Drive, Charleston, WV 25301. Each hearing had two sessions: the first from 2:00 p.m. to 5:00 p.m. and the second on the same day from 7:00 p.m. to 11:00 p.m. Notices of the public hearings were mailed by the Corps of Engineers to persons who mailed comments to the EPA during the NEPA scoping process.

During the public review period, 712 letters were received from individuals and organizations. One letter was received from a group of members of the United States Congress. Three letters were received from Federal agencies. Nine letters were received from state or commonwealth agencies. One hundred seventy six (176) people provided oral comments at the Public Hearings. Eighty three thousand ninety five (83,095) form letters were received. This document presents the complete text of the public comment letters and e-mails in Section A and the complete public hearing transcripts in Section B. Each of the seventeen different form letters is presented once in Section A with a notation of the number received.

Each letter, e-mail, form letter, and oral statement was reviewed and evaluated. Changes or additions to the text of the DPEIS made in response to comments are incorporated into the Final EIS through an errata sheet.

To effectively and efficiently evaluate and respond to the large number of comments, each written and oral comment was grouped into a numbered category. Paragraphs within a letter, e-mail, post card or oral statement were identified by a set of numbers that correspond to the numbered category. For example, a paragraph stating a preference for Alternative 3 was given the number 1-4.

These following categories/subcategories were assigned to paragraphs (or as needed to sentences) within comment letters, e-mails, post cards or oral statements. The notation on the comment letter is the major category number and the subcategory number, plus the second subcategory number when applicable (for example 1-1, or 5-1-2). The first four major categories do not have second subcategories. The remaining categories have subcategories and second subcategories. The notation 1-1 indicates category 1 Alternatives and an additional notation of a preference for the no action alternative. The notation 5-1-2 indicates category 5 water resources and an additional notation of surface water use as a resource, adequacy of analysis. The notation 5-5-2 indicates category 5 water resources and an additional notation of water quality, adequacy of analysis.

## **Major Category**

### **Subcategory**

#### **Second subcategory**

## **1. Alternatives**

1. Preference for No Action Alternative
2. Preference for Alternative 1
3. Preference for Alternative 2
4. Preference for Alternative 3
5. Disagree with all alternatives presented
6. The Agency Preferred Alternative should be modified in a specific way
7. Preference for an alternative considered in the EIS but not evaluated in detail
8. Suggestion of an alternative not considered or evaluated in the EIS
9. Opposition to MTM/VF
10. Opposition to easing environmental regulation, including opposition to changing or eliminating the Stream Buffer Zone rule
11. Support of MTM/VF
12. Support of no additional regulation
13. Other

## **2. Role of the General Public**

1. Local Citizens\communities
2. Nationwide Citizens\Communities
3. Specific interest groups
4. Other

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3. **Public Involvement**

1. Adequacy/Availability of Information
2. Outreach/Agency Communication Efforts
3. Use of Public Involvement/Comment
4. Public Meetings
5. Adequacy of Public Comment Period
6. Other

4. **Adequacy of EIS (NEPA)**

1. Adequate
2. Inadequate

5. **Water Resources**

1. Surface Water Use as a Resource
2. Groundwater Use as a Resource
3. Riparian Areas and Wetlands
4. Water Quantity
5. Water Quality
6. Watershed Condition
7. Direct Stream Loss
8. Other

6. **Aquatic Fauna and Flora**

1. Non-game
2. Game
3. Avifauna
4. Invertebrate and Insect
5. Aquatic Flora
6. Other

7. **Terrestrial Fauna and Flora**

1. Non-game
2. Game
3. Avifauna
4. Invertebrate and Insect
5. Terrestrial Flora
6. Other

8. **T&E, Candidate, and Species of Concern**

1. Federal Threatened, Endangered, or Candidate
2. Species of Concern
3. Other

9. **Cumulative Impacts**

1. Terrestrial Ecosystem/Habitat Composition and Function / Fragmentation and Connectivity/Deforestation
2. Environmental Quality and Ecosystem Integrity/ Biodiversity /Environmental Values
3. Aquatic Cumulative. Aquatic Ecosystem/Habitat Composition/Integrity
4. Social and Economic cumulative
5. Other

10. **Social Values**

1. Population Parameters (i.e. number and age structure)
2. Community / Cultural
3. Urbanization and Development
4. Quality of Life
5. Public Health and safety
6. Aesthetic Values (visual, noise, etc)
7. Environmental Justice
8. Other

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11. **Economic Values**

1. Employment
2. Business Viability
3. Private Property Values
4. Tax Base and Payment to states
5. Non-traditional forest products economic issues
6. Traditional forest products economic issues
7. Tourism and recreation economic issues
8. Coal industry economic issues
9. Other

12. **Government Efficiency**

1. Permitting
2. Other

13. **Excess Spoil Disposal**

1. Fill Minimization
2. Fill Stability
3. Other

14. **Stream Habitat and Aquatic Functions**

1. Assessing
2. Mitigating
3. Other

15. **Air Quality**

1. Blasting dust and fumes
2. Other

16. **Blasting (Excluding blasting dust and fumes)**

1. Vibration
2. Fly rock
3. Other

17. **Flooding**

1. Flooding Evaluation
2. Fear of Flooding
3. Other

18. **Invasive Species**

1. Used in reclamation
2. Increased opportunity for invasives to spread
3. Other

19. **Reclamation**

1. Contemporaneous reclamation
2. Reclamation with trees
3. Other

**Secondary Subcategories**

Each subcategory comment was further categorized into the following secondary subcategories. Except for subcategories under Major Categories 1-4, which have no secondary subcategories.

1. Legal
2. Adequacy of analysis or statement of impact
3. Monitoring or mitigation
4. Specific edit
5. Factual material provided to include in EIS

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## Section A

The public was invited to provide written comments on the Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement during the public comment period. The Federal Register Notice of Availability dated May 30, 2003 announced a 90 day comment period ending August 29, 2003. The public comment period was subsequently extended an additional 130 days to January 6, 2004, and then an additional two weeks to January 21, 2004. These letters were made available for public review on the EPA website <http://www.epa.gov/region3/mtntop/index.htm>.

The written comments were reviewed and evaluated. Comments were grouped into different numbered categories. The comments are presented half size with applicable numbered categories identified adjacent to the comment. Form letters are presented once with the number of signatories.

The written comments are presented in the following order:

- **Elected Officials**
- **Federal Agencies**
- **State or Commonwealth Agencies**
- **Organizations**
- **Citizens**
  - Individual Letters
  - Form Letters

An index of a author's name and the page number where the Comments are presented is included at the end of this document. An index of organizations and the page number where comment letters are presented is included at the end of this document.



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## **Elected Officials**



**Congress of the United States**

Washington, DC 20515

June 19, 2003

Christine Todd Whitman, Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

Les Brownlee, Acting Assistant  
Secretary of the Army (Civil Works)  
108 Army Pentagon  
Washington, D.C. 20310-0108

Steven A. Williams, Director  
U.S. Fish and Wildlife Service  
Department of the Interior  
1849 C Street N.W.  
Washington, D.C. 20240

Jeffery Jarrett, Director  
U.S. Office of Surface Mining  
Department of the Interior  
1849 C Street N.W.  
Washington, D.C. 20240

Dear Administrator Whitman, Acting Assistant Secretary Brownlee, Director Williams  
and Director Jarrett:

We are writing to express our opposition to the Mountaintop Mining/Valley Fill Draft Environmental Impact Statement (EIS) released May 29, 2003 by the Environmental Protection Agency (EPA), Army Corps of Engineers (Corps), Office of Surface Mining (OSM), U.S. Fish and Wildlife Agency (FWS), and the West Virginia Department of Environmental Protection. We ask you to reconsider the suggested "preferred alternative" contained in the Draft EIS, and to evaluate and select a more appropriate measure that would limit the environmental destruction caused by mountaintop removal coal mining that was documented in the studies accompanying the Draft EIS.

The preferred alternative advocated in the Draft EIS would attempt to combine the Surface Mining Reclamation and Control Act (SMCRA) and Clean Water Act (CWA) permitting processes, in a move that the agencies advocate as a streamlining and efficiency measure. However, many of the intended benefits of the CWA regulations would be largely undermined by this new approach, which would give the OSM a greater role in CWA permitting decisions — a responsibility and authority granted by Congress to EPA, not OSM. Given the EPA's familiarity and expertise in the CWA permitting process, it seems inefficient and unnecessary to decrease their role and transfer this responsibility to the OSM.

In addition, the "preferred alternative" directs the Corps to decide whether to require a general Nationwide Permit (NWP 21) or a more stringent individual Permit (IP) for proposed mining activities on a case-by-case basis, heavily relying upon SMCRA information provided by the applicant. The CWA, however, prohibits the granting of a NWP for actions that cause more than a minimal impact to the waters of the U.S. Given the results of the Cumulative Impact Study (CIS) performed in the course of the EIS, it is

clear that mountaintop removal mining and valley fill activities individually and cumulatively *do* constitute more than minimal impacts and therefore should no longer be treated as eligible for general permits. We also understand that the preferred alternative would go so far as to eliminate the interim prohibition on using NWPs for valley fills greater than 250 acres in size that has been in effect in West Virginia since 1998. This appears to completely ignore the findings that the larger valley fills are the most environmentally harmful.

Additionally, the scientific and technical studies performed in the course of the EIS clearly demonstrate that small (e.g. 35 acre) drainage basin restriction sizes were the least damaging to terrestrial, riparian and aquatic resources within the study area. The scenarios with unconstrained drainage basin impact areas produced the largest negative effect upon the study area.

These findings regarding drainage basin size restrictions led to the inclusion of alternatives in the January 2001 Preliminary Draft EIS that compared the relative benefits and costs of limiting the maximum size of valley fills. Specifically, the Preliminary Draft detailed scenarios in which valley fill size would be capped between 0 to 75 acres or 76 to 250 acres. However, the May 29, 2003 Draft EIS contains no alternatives regarding valley fill size restrictions.

The original purpose of this programmatic EIS was to develop policies and procedures to "*minimize, to the maximum extent practicable*, the adverse environmental effects to waters of the United States and to fish and wildlife resources from mountaintop mining operations, and to environmental resources that could be affected by the size and location of fill material in valley fill sites" 68 FR 5800 (emphasis added). Yet, it appears that the primary goal of the May 29, 2003 Draft EIS was streamlining the permitting process, rather than minimizing environmental impacts. The impacts of mountaintop removal mining were proven to be significant and will not go away simply by combining the federal permitting processes, nor by weakening existing federal environmental protections.

The CIS included in the EIS states that "if mining, permitting, and mitigation trends stay the same, an additional 1000 miles of *direct* impacts could occur" in the next decade. The accompanying studies demonstrate that the harm to the region's natural resources, and the human communities and wildlife species that depend on these resources, is significant, largely irreversible, and of national consequence. For example, between 1985 and 2001, nearly 6,700 valley fills were approved in the study region, which included West Virginia, Kentucky, and parts of Virginia and Tennessee. These valley fills have already buried over 700 miles of streams and degraded water quality over a total of 1200 miles of streams -- and the studies confirm that the direct burial of stream segments is permanent. This is to say nothing of the *indirect* effects of these mining and fill activities, which would certainly exacerbate the environmental harm. Due to the immense biodiversity (riparian, terrestrial, and aquatic) of the southern Appalachian region, the biological impacts of valley fills will have a "disproportionately large impact on the total aquatic genetic diversity of the nation."


The CIS further asserts that, "based on permits issued in the last ten years and an assumption of similar permits in the next ten years, mountaintop [removal] mining has the potential to adversely impact 380,547 acres of forest in the four-state study area." This is equivalent to 594 square miles — an area equivalent to about ten cities the size of the District of Columbia. While the agencies are to be commended for preparing and releasing the CIS and the dozens of other technical, scientific and economic studies conducted as part of the Draft EIS, they fail to draw the conclusion from these reports that mountaintop removal coal mining is seriously jeopardizing the future of the Appalachian region as well as rapidly destroying natural resources of national importance.

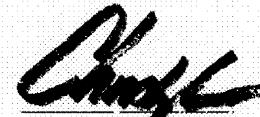
We are most concerned that, despite the well-demonstrated need to take immediate measures to limit the destruction caused by mountaintop removal mining, the final EIS neither evaluates nor proposes measures to address the significant environmental problems raised in the CIS and other reports. Rather, the EIS evaluates primarily procedural, authority-driven changes in the agencies' permitting processes and information sharing policies. Furthermore, the Draft EIS's preferred alternative even suggests weakening existing environmental standards that apply to mountaintop removal coal mining. This is exactly the opposite response warranted by the thousands of pages of studies accompanying the EIS.

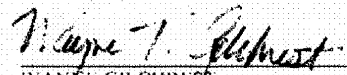
Another recommendation in the EIS is to finalize changes to the SMCRA buffer zone regulation. This rule, adopted by the Reagan Administration in 1983, prohibits surface mining disturbances within 100 feet of a perennial stream or intermittent stream, unless there is a finding that the activity will meet water quality standards and not cause adverse environmental effects on stream water quality or quantity. The proposed new rule, however, would specifically allow for the dumping of excess spoil directly into these streams, with the only requirement being that the mining companies have "minimized the creation of excess spoil to the maximum extent practicable." This rule change would effectively remove the "buffer" from the buffer zone rule to create an illegal and unwarranted exception for valley fills. This hands an advantage to coal mining companies that would continue to increase, not minimize, the harmful environmental effects of mountaintop removal mining.

We urge you to reconsider the recommendations in the Draft EIS to conform to the evidence produced by your studies. Mountaintop removal mining and the dumping of excess spoils into valley fills are incredibly destructive activities that have wreaked havoc upon an entire ecosystem, and will continue to do so without the enforcement of existing laws like the buffer zone rule and the adoption of additional limits on these practices. This Draft EIS tips the scales too heavily in favor of the coal mining industry and against the resources and people of the region. Accordingly, your agencies should implement procedures that, at the very least, strike the required statutory balance of environmental and mining interests.


Sincerely,

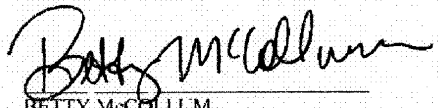
  
FRANK PALLONE, JR.  
Member of Congress

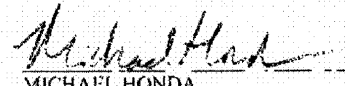
  
CHRISTOPHER SHAYS  
Member of Congress


  
WAYNE GILCHREST  
Member of Congress

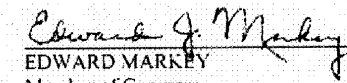
  
BARNEY FRANK  
Member of Congress

  
JAMMY BALDWIN  
Member of Congress

  
BETTY MCCOLLUM  
Member of Congress

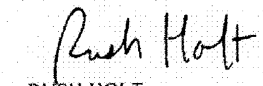
  
MICHAEL HONDA  
Member of Congress

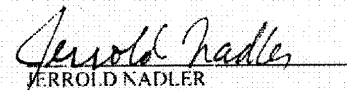
  
SHEILA JACKSON LEE  
Member of Congress

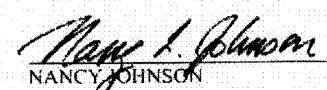
  
EDWARD MARKEY  
Member of Congress

  
LOIS CAPPS  
Member of Congress

  
JIM McDERMOTT  
Member of Congress

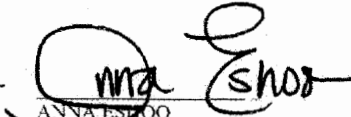
  
RUSH HOLT  
Member of Congress


  
FERROL D NADLER  
Member of Congress


  
NANCY JOHNSON  
Member of Congress

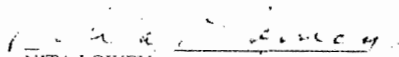
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RAUL GRIJALVA  
Member of Congress

  
ANNA ESCOBEDO  
Member of Congress

  
EARL BLUMENAUER  
Member of Congress

  
ELIOT ENGEL  
Member of Congress

  
NITA LOWEY  
Member of Congress



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## **Federal Agencies**





United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
Reston, Virginia 20192

REC'D JAN 9 2004

Reply Refer To:  
Mail Stop 423

JAN 6 2004

MEMORANDUM

To: U.S. Environmental Protection Agency  
Philadelphia, Pennsylvania

From: James F. Devine *James F. Devine*  
Senior Advisor for Science Applications

Subject: Review of Draft Programmatic Environmental Impact Statement for the  
Mountaintop Coal Mining and Associated Valley Fills in Appalachia.

The U.S. Geological Survey (USGS) has reviewed the subject Draft Programmatic Environmental Impact Statement (DPEIS) and offers the following comments.

**GENERAL COMMENT:**

The Draft Programmatic Environmental Impact Statement does not use any USGS coal quality data. The data in USGS Professional Paper 1625-C (2001) could be helpful in evaluation of the resource.

**SPECIFIC COMMENTS:**

**Page ES-4, Executive Summary, Chapter Technical Studies, third bullet point:**

The third sentence is internally inconsistent. As written, the sentence contrasts stream storm response to "low-frequency storms" with response to "larger rainfall events;" low-frequency storms are by definition large storms. A correction that would improve the meaning of this sentence would be to change the phrase "low-frequency" to "low-intensity." The USGS recommends that the sentence be replaced with the following sentence: "During slow, soaking storms, peak unit runoff from a mined watershed generally does not exceed that from an unmined watershed; however, during highly intense summer thunderstorms, peak unit runoff from a mined watershed generally equals or exceeds that from an unmined watershed."

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Page II. C-28 to II. C-29, Chapter II Alternatives; Section C Detailed Analyses of the Actions to Address Issues; Subsection 2, Government Efficiency, Sub-Issue: Consistent/Compatible Definitions for Stream Characteristics and Analyses; Subsection a., No Action Alternative; Subsection a.2, SMCRA; last sentence:

The following typographical error should be corrected as it is part of a definition: "For instance, in West Virginia, the point where the stream segment changes from ephemeral to intermittent is located by a file) contributing to a watershed tributary."

Page II. C-29, Chapter II Alternatives; Section C, Detailed Analyses of the Actions to Address Issues; Subsection 2, Government Efficiency, Sub-Issue: Consistent/Compatible Definitions for Stream Characteristics and Analyses; Subsection b, Alternatives 1, 2, and 3; second paragraph:

The document states in Action 2 that "Federal and state regulatory authorities will work with... stakeholders to establish science-based methods for definition and delineation of stream characteristics..." A study addressing this point has been completed by the USGS in cooperation with the Office of Surface Mining and the U.S. Environmental Protection Agency (Paybins, 2002).

Pages III N-1 to III N-7, Chapter III Affected Environment And Consequences of MTM/VF; Section N. Past And Current Mining In The Study Area:

The coal production figures cited in this section end with 1998 data and should be updated to reflect more current (2000) coal production statistics (USGS, 2001).

Page III O-4, Figure III O.1 - Chapter III Affected Environment And Consequences of MTM/VF; Section O, The Scope of Remaining Surface-Minable Coal in the Study Area; Extent of Potential Mountaintop-Minable Coal:

An explanation (color legend) is needed for Figure III O.1.

Page III C-1 to III C-22, Chapter III Affected Environment And Consequences of MTM/VF; Section C., Appalachian Aquatic Systems:

Overall, this section focuses too narrowly upon carbon assimilation and transport. Although these headwater processes are very important, they are not the only processes occurring in headwater streams. Processing of litter inputs is more than the sequential fragmenting and reprocessing of carbon; there are changes in the availability of nutrients, uptake, sequestration and release. The USGS recommends that the section be expanded to include discussion of the additional processes.

In the discussion of fish in Appalachian headwater streams, mention is made of typical cold-water species inhabiting these reaches. Some of the species mentioned are not

specifically cold-water species, but pioneer species adapted to live in ephemeral environments. This should be noted in the section.

The statement that the river system in the MTM/VF study area has a unique fisheries system, which is important in the evolution and speciation of North American freshwater fishes, needs to be clarified. It is a rather important statement and merits further discussion.

The discussion of lentic environments seems rather long, considering the relative paucity of these features in the landscape of the study area. Instead of an environment affected by MTM/VF, wetlands and ponds in the study area are much more likely an environment resulting from MTM/VF and should be discussed in more detail.

The listing of the potential benefits of ponds in the study area makes no mention of the transient nature of the benefits, as the ponds are very commonly removed at the completion of reclamation. Sediment pools made available by the removal of pond dams could result in the pulse transport of large sediment loads. These sediments are of unknown composition and may contain elevated concentrations of metals and trace elements. This topic should be further discussed in the text.

**Page III.C-17, Chapter III Affected Environment and Consequences of MTM/VF; Section C, Appalachian Aquatic Systems, Subsection 2. Lentic (Non-flowing) Aquatic Systems and Wetlands, Subsection e. Ecosystem Function:**

The statement that "This lake is anticipated to be similar to natural ponds found in the study area." is inconsistent with the statement that "...there are no natural lakes and ponds in West Virginia... [and] virtually all lentic systems in the study area have been formed by impounding flowing water systems" (page III.C-13). The USGS recommends that the statements be reconciled so the document states unambiguously whether natural ponds exist in the study area.

**Page III.C-20, Chapter III Affected Environment and Consequences of MTM/VF; Section C, Appalachian Aquatic Systems, Subsection 2. Lentic (Non-flowing) Aquatic Systems and Wetlands, Subsection f. Wetlands in the Study Area:**

The USGS recommends that the discussion on engineered ponds and wetlands in mined areas include information about accumulation of sediment. Most of these ponds are designed to trap sediment, which they do effectively. Because the ponds fill up with sediment, the functions they perform change through time; specifically, the function of providing fish habitat is performed less effectively by ponds filled with sediment.

The statement that "Functions of man made ponds and wetlands exist and may be considerable... [and] have their own inherent values." (p. III.C-20) seems overly broad

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and vague, considering that mitigation projects for stream loss have included the "...creation of palustrine or pond-type wetlands or linear, drainage ditch-type wetlands..." (p. IV.B-9). If some measurements of ecological structure and function for these mitigation wetlands have been made and are available, then specific information should be presented in section C; and if not, the absence of such measurements should be noted.

**Page III. D-1, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to the Headwater Streams from Mountaintop Mining, second paragraph:**

In the description of potential impact factors, the statement is made that all eight of the impact factors are related to headwater stream function. In many instances, it appears that these factors are most strongly related to physical disturbance of the drainage basin. The USGS recommends that the statement be rewritten; if the statement is kept in its present form, it should explain, for example, how changes in downstream sedimentation are related to headwater function or downstream thermal regime.

**Page III. D-3, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection b.2, Studies in the MTM/VF Study Area:**

The study cited as USGS, 2002-Draft was released in May 2003. Please delete the USGS 2002 Draft citation and use "USGS, 2003." The full citation is given in the References section.

The USGS report did not use the "E-point, P-point" abbreviations, instead referring to "ephemeral points" and "perennial points." Referring to this study as "their 'E-point, P-point study'" could be confusing, even to readers familiar with the report. The USGS recommends that the "E-point, P-point" terminology be changed.

**Page III. D-4, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection c, Loss of Upstream Energy from Buried Stream Reaches:**

The USGS recommends that a sentence such as the following be added: "Although recognized from the beginning of the DPEIS process as an important issue, loss of energy from buried stream reaches was never studied, and therefore the DPEIS cannot directly address this issue."

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**Page III. D-5, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection d., Changes in Downstream Thermal Regime:**

The USGS recommends that the paragraph clarify that the site below the valley fill was at the toe of the valley fill.

**Page III. D-5, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection d., Changes in Downstream Thermal Regime, first paragraph:**

The second to last sentence of this paragraph states "It is difficult to predict the possible impacts of this moderated thermal regime on the downstream aquatic communities." There is a body of literature describing the effects of thermal regimes upon invertebrate communities. Many physiological processes are temperature dependent and many key life cycle events are cued by temperature. Alteration of the thermal regimes may result in a reduction of fitness at an organismal level or alter the synchronization of invertebrate life cycles with other seasonal events. A good review of the thermal ecology of aquatic invertebrates can be found in Ward and Stanford (1982). It is interesting to note that on page III.D-14, a study by Arch Coal indicated that a moderated thermal regime may result in the early emergence of certain stonefly taxa. The USGS recommends that the paragraph be rewritten to incorporate some of the conclusions of these studies.

Overall, there is a lack of synthesis across topical areas. Not one of these factors has an effect entirely separate from the others. In particular, chemistry and hydrology are intimately linked, especially in their effect upon downstream reaches. Increased flow during low-flow periods can help sustain populations, but if the elevated flow is also elevated in contaminants, there is a simultaneous decrease in one stressor (low-flow) and increase in another (exposure to contaminant). The USGS recommends that the document include discussion of these interactions across all the listed factors.

**Page III. D-5, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection e. Changes in Downstream Flow Regime:**

The USGS suggests that two reports on the Ballard Fork gages (Messinger, 2003; Messinger and Paybins, 2003), which were produced by USGS West Virginia District as part of the EIS process, be discussed in this section. Both reports contain noteworthy

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information on total flows, stormflow characteristics, and seasonal evapotranspiration losses.

**Page III. D-7, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection f, Changes in Downstream Chemistry; Subsection f.2, Summary and Conclusions, first paragraph, second sentence:**

Sulfate, total dissolved solids, hardness, specific conductance, and manganese are not cations. The USGS recommends that the word "cations" be replaced with "constituents and properties" or otherwise be rewritten.

**Page III. D-9, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection h, Effects to Downstream Biota, Subsection h.1, Summary of Results from Upstream-Downstream Comparison-Type Studies, second paragraph:**

The USGS recommends the word "metrics" be changed to "metrics."

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**Page III. D-11, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection h.4., Studies of Macroinvertebrate Communities in Stream Sites Located Downstream from Mined or Mined/Valley Filled Areas in Comparison to Reference Locations, first paragraph:**

The introductory paragraph refers to a single study; however, the second sentence refers to "...these studies...." The USGS recommends that the document clarify that only one study is used.

**Page III. D-15, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 1. Studies Relating to Direct and Indirect Surface Water Impacts from Mountaintop Mining and Valley Fills; Subsection i., Impacts of MTM/VF on Fish Assemblages, second paragraph:**

The USGS National Water Quality Assessment fish community study (USGS 2001b) should not be characterized as extensive, because fish were only collected at a dozen sites in the coalfields and 20 sites overall.

**Page III. D-18, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 2., Studies Relating to Mitigation Efforts for MTM/VF Impacts to Aquatic Systems; Subsection d., Limiting Factors for In-Kind Mitigation Projects:**

The USGS recommends that the discussions of stream creation include additional information on watershed hydrology, such as the Variable Source Area Concept (Hewlett and Hibbert, 1967), that is, that water seeps downhill through soil until it reaches a confining layer, that streams form in saturated soil areas on the land surface, and that the area of saturated soil that contributes to streamflow is variable through time. In light of the principles of watershed hydrology, stream creation is very difficult and may not be practical, at least if only natural channel design is to be applied to ditch construction.

**Page III. D-19 (third paragraph) and III. D-20 (third paragraph), Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 2., Studies Relating to Mitigation Efforts for MTM/VF Impacts to Aquatic Systems; Subsection e.1., Onsite:**

Are the habitat quality indicators actually scored from 0 to 1? Or is this a typographical error? Please verify.

For nutrient cycling, it is well known that aquatic insects play a role in all aquatic ecosystems because all living organisms cycle nutrients. A more reasonable question that should be addressed in this section is whether nutrient cycling in such nutrient-poor systems are important to areas larger than the created wetlands.

**Page III. D-21, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 2., Studies Relating to Mitigation Efforts for MTM/VF Impacts to Aquatic Systems; Subsection e.1, Onsite, top of page, lines 7-9:**

The statement "However, it is not known whether the organic matter processing that occurs in created wetlands would mimic the processing found in a natural stream system." does not consider much information that is known about the nature of wetlands compared to the nature of streams. Wetlands, by their nature, trap and conserve organic matter, and function as organic matter sinks; whatever organic material wetlands retain, the material tends to be dissolved, rather than undissolved. Streams, by virtue of flowing, tend to transport organic matter (and whatever else they contain) downstream. Thus, it is unlikely that organic matter processing in created wetlands would provide processing similar to that provided by small streams. The USGS recommends that the statement be modified to emphasize these differing roles of streams and wetlands.

6-6-4

A major question in the context of mitigation is not whether constructed ponds and wetlands have functions with inherent value, but whether they have functions that provide value equal to that of the streams they replace. One of the ways this can be assessed would be by quantifying their relative effects on downstream aquatic systems through a designed Before-After, Control-Impact study. The USGS recommends that the document describe how it will be determined that the functions of the created ponds and wetlands will be equal to those of the surface water features they replace.

**Page III. D-21, Chapter III Affected Environment and Consequences of MTM/VF; Section D, Impact Producing Factors to The Headwater Streams from Mountaintop Mining; Subsection 2., Studies Relating to Mitigation Efforts for MTM/VF Impacts to Aquatic Systems; Subsection e.2., Offsite, second paragraph, sixth sentence:**

The USGS recommends that the document explain what a high water mark is and how it is determined.

**Page III. E-3, Chapter III Affected Environment and Consequences of MTM/VF; Section E, Coal Mine Drainage from Surface Mining; Subsection 2, Coal Mine Drainage, second paragraph:**

For clarity, USGS recommends that the term circumneutral be replaced with a more conventional way of saying that values were close to pH of 7.

**Page III. E-3, Chapter III Affected Environment and Consequences of MTM/VF; Section E, Coal Mine Drainage from Surface Mining; Subsection 2, Coal Mine Drainage, Subsection a., Indicator Parameters:**

The USGS recommends that the discussion of alkalinity in mine drainage place greater emphasis on the importance of reclamation and mine-drainage treatment as a significant source of increased alkalinity. Water-quality amendments used to elevate pH and precipitate Fe and Mn in mine drainage before discharging to receiving waters also increase both alkalinity and specific conductance; this should be stated in the discussion.

**Page III. E-6 Chapter III Affected Environment and Consequences of MTM/VF; Section E, Coal Mine Drainage from Surface Mining; Subsection 2., Coal Mine Drainage, Subsection 2b., Effects of Coal Mine Drainage:**

This section states that coal-mine drainage contains metals and trace elements that precipitate to the sediments of receiving streams, which consequently elevates their corresponding concentrations in the sediments. The USGS recommends that the section also stress the role of flocculants and precipitates in cementing substrates and contributing to streambed armoring.

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Page III H-2, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity, Subsection 2., Pre-mining Appalachian Groundwater Flow System; first paragraph:

Variation in permeability in consolidated bedrock is more strongly related to occurrence and density of fractures or secondary permeability as opposed to lithology differences. Consolidation of the overburden does not relate to hydraulic conductivity at depth. Hydraulic conductivity decreases with depth due to increasing confining pressures limiting fracture apertures. The USGS recommends the paragraph, and in particular the third-to-last sentence, be corrected to more clearly emphasize the importance of fractures in determining permeability.

Page III H-3, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity, Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection a., Conceptual Model of MTM / VF, second paragraph, last sentence:

MTM does not simply eliminate the pre-mining perched aquifer. It creates an aquifer of fill at the active mine site, effectively creating a man-made perched aquifer system resting atop the valley bedrock. Additional complexity is added when fracturing of bedrock adjacent to the mine is considered. The USGS recommends the paragraph be corrected to reflect the creation of the fill aquifer at the mine site.

Page III H-3, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity, Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection a., Conceptual Model of MTM / VF, third paragraph:

Valley fills do not join two aquifer systems, rather it is the creation of a new aquifer consisting of unconsolidated fill atop fractured bedrock. Flow to the premining fractured bedrock system is greatly disrupted. The USGS recommends that the paragraph emphasize that flow in the fractured bedrock after fill placement is not the same as during premining conditions.

The USGS recommends that the paragraph also mention that groundwater flow velocities in the fill are highly variable and localized and in some cases channelized; residence times of water in the fill materials also vary spatially.

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Page III H-3, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Mining to Groundwater Quality and Quantity, Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection b., MTM/VF Impacts to the Physical Ground Water System, first paragraph:

Hydraulic gradients are not derived from hydraulic conductivity or storativity. Rather, they are derived from head relationships established by aquifer boundary conditions. The USGS recommends the definition of hydraulic gradient in the fourth sentence of this paragraph be corrected.

Page III H-4, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Mining to Groundwater Quality and Quantity, Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection b. MTM/VF Impacts to the Physical Ground Water System, first and second full paragraphs:

Runoff decreases in the VF site have to be weighed against the increased runoff from the active mining site. Without vegetative or soil cover, little water will infiltrate the area. The USGS recommends that the document state that total runoff from the site may be decreased, but runoff from the entire system inclusive of diversions is greater.

Discharge volumes cannot be applied acrially to calculate infiltration rates. The highly channelized nature of the fill and varying fill materials does not lead to spatially even distribution of infiltration. Calculating percentage of outflow attributed to precipitation assumes no interaction with fractured bedrock and accounts for no diversion of runoff. The USGS recommends that this misleading calculation be qualified or deleted.

Page III H-5, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity, Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection b. MTM/VF Impacts to the Physical Ground Water System, first full paragraph:

Storage volumes are better represented using a range of effective porosities to account for the various lithologies. Increases in storage does not increase flow velocities. Higher velocities do not decrease hydraulic head, rather hydraulic gradients. The USGS recommends that the section be revised to reflect the above comments.

5-4-4

**Page III. H-5, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity; Subsection 3., Impacts to Groundwater Quantity from MTM/VF, Subsection c., Impacts to Valley-Bottom Groundwater Recharge from MTM/VF, first paragraph:**

No justification is provided for the assertion in the second sentence of this paragraph that MTM/VF impacts on valley bedrock aquifers would be limited. The justification requires proof that VF aquifers do not interact with the underlying fractured bedrock. The USGS recommends that citations justifying the conceptual models be provided, or the paragraph be rewritten to emphasize the uncertainty of the models and the possibility for interaction between the VF aquifers and the underlying bedrock.

5-4-4

**Page III. H-7, Chapter III Affected Environment and Consequences of MTM/VF; Section H, Relationship of Mountaintop Mining to Groundwater Quality and Quantity; Subsection 4., Impacts to Groundwater Chemistry from MTM/VF; Subsection a., Geochemical Reactions, first full sentence:**

The USGS recommends the sentence be reworded to emphasize that mineral concentrations in outflowing waters from fills may decrease over time but may remain at unacceptable levels.

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**Page III. K-38 through III. K-46, Chapter III Affected Environment and Consequences of MTM/VF; Section K., Excess Spoil Disposal, Subsection 4., Trends in Watershed Size:**

Most of the comparative discussions on the data provided in this entire section are brief and cursory. The reader is left to discern differences in trends and interpretations that could give more meaning to the data. The significance of the information in the tables and figures should be provided in text. What does the information mean, and why is it important?

13-3-4

The document states that trend analysis is very useful for evaluating and predicting impacts on the environment; however, no information is provided on how the trend analysis is useful or what the impacts are specifically. The USGS recommends that this additional information be provided in this section.

**Page III. K-47, Chapter III Affected Environment and Consequences of MTM/VF; Section K., Excess Spoil Disposal, Subsection 5., Trends on Stream Impact Under Fill Footprints:**

5-7-4

1. The analyses in subsection 5 seem to be based on the use of data that differs from data based on impacted watershed areas upstream of a fill toe to assess the total length of direct stream. Perhaps, this should be stated explicitly in the text.

2. The reason for the choice of 30-acre watersheds used in the delineation of the synthetic stream network is not explicitly stated within section III-K, other than that the synthetic network is less subjective than the topographic map stream delineation. A discussion somewhere in this section about the accuracy of the underlying data seems necessary, given that the National Elevation Dataset data includes digital elevation models of multiple resolution and vintage.
3. The term "stream loss" was used to describe the synthetic streams that are buried by fills, but no mention is made as to whether the streams were assumed to be intermittent or perennial. This information should be provided in text.
4. No comment in this brief section alludes to trends as compared to watershed area impacted by fills; for example, although WV had only 1.73 miles of synthetic streams buried in 2001 (table III. K-8), the average watershed area impacted by a valley fill was 3 times greater (97.28 acres) than that for the 30-acre watershed. Does this suggest that 30-acre watersheds may be too dense a network? Are watershed areas under a fill actually intermittent or ephemeral? Should medians for watershed area be used in trend analysis, so as to improve information about central tendency of data?
5. It is not clear if the valley fill footprint data used in this analysis is the total number of fills approved or the number of fills constructed. This would seem a crucial point, as up to half of the permitted fills may not be constructed, according to information provided in section III. K-2.

5-7-4

**Page IV. B-3, Chapter IV Environmental Consequences of the Alternatives Analyzed, Section B, Aquatic Resources, Subsection 1., Consequences Common to No Action Alternative and Alternatives 1, 2, and 3; Subsection a., Direct Stream Loss from MTM/VF, second paragraph:**

The contribution of fine and coarse organic matter represents one of the most important effects of large surface mines, and should be measured or estimated, if possible. Although widely-accepted, standardized testing procedures for quantities of fine and coarse organic matter in streams may not exist in a regulatory context, regulatory methods didn't exist for some of the other impacts studied in the DPEIS process. Several classic studies (Fisher and Likens, 1973, for instance) would serve as excellent models for a defensible study for measuring this contribution of headwater streams in the study area.

6-6-4

**Page IV. B-3, Chapter IV Environmental Consequences of the Alternatives Analyzed, Section B, Aquatic Resources, Subsection 1., Consequences Common to No Action Alternative and Alternatives 1, 2, and 3; Subsection a., Direct Stream Loss from MTM/VF, fifth paragraph:**

6-6-4

The statement "It is also not evident to what degree reclamation and mitigation (e.g. drainage control and revegetation) offset this organic nutrient reduction." requires further explanation; is there some component of drainage control that is thought to directly offset

this loss? If so, it was not adequately discussed in this section of the DPEIS. Similarly, the statement "Existing CWA programs indirectly address these effects...." does not appear to be well supported because the programs mentioned address different effects that may or may not have ecological importance equal to that of organic-matter processing. Whether the ecological importance is equal can only be determined if organic-matter processing is measured in the study area. The USGS suggests that additional information, if available, be provided to bolster support for the noted statements. If information is not available, then this lack of information should be explicitly stated in text.

**Page IV, B-5, Chapter IV Environmental Consequences of the Alternatives Analyzed, Section B, Aquatic Resources, Subsection 1, Consequences Common to No Action Alternative and Alternatives 1, 2, and 3, Subsection b., Indirect Stream Impacts, first full sentence at top of page:**

The first full sentence may not accurately describe the intended meaning of the passage. Zinc, sodium, and sulfate concentrations would be expected to be positively correlated with fish and invertebrate impairments instead of negatively correlated. The USGS suggests that the intended meaning of the passage be verified.

**Page IV, D-5, Chapter IV Environmental Consequences of the Alternatives Analyzed, Section D, Fish and Wildlife, Subsection 1, Consequences Common to No Action Alternative and Alternatives 1, 2, and 3, Subsection d., Fish Populations:**

This section is brief and not very informative regarding mining impacts on fish populations. The USGS suggests that additional information (topic material or concepts) be provided in the section. Coverage of the topic should be similar to that provided in section b. (page IV, D-2).

**Appendix C Regional Setting Supporting Information:**

**Page C-45, Table C-17 General Groundwater Composition of Virginia Coalfields (Hufschmidt, 1981):**

Table C-17 is incorrect. The table with the correct groundwater composition of Virginia information (from Hufschmidt, 1981) needs to be included here.

**Page C-51, Table C-19 Comparative Groundwater Quality Data for Southwestern West Virginia (Ehlke, 1982):**

Table C-19 is not cited in text discussion.

Thank you for the opportunity to review and comment on this DEIS.

6-6-4

6-1-4

5-5-4

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control  
and Prevention (CDC)  
Atlanta GA 30333  
September 2, 2003

Mr. John Foretn, US EPA (3BA30)  
2650 Arch Street  
Philadelphia, Pennsylvania 19103

Dear Mr. Foretn:

We have reviewed the Mountainstop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact prepared by the U.S. Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and the West Virginia Department of Environmental Protection. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

We believe the DEIS has identified the appropriate potential human health impacts that may result from these mining operations. If the mitigation measures described in this document are followed and enforced, there should be minimal impacts to human health.

Thank you for the opportunity to review and comment on this document. Please send us a copy of the Final EIS when it becomes available

Sincerely yours,

*Paul Joe*  
Paul Joe, DO, MPH  
Medical Officer  
National Center for Environmental Health (F16)  
Centers for Disease Control & Prevention



Water Resources Division  
Western Region  
345 Middlefield Road, MS 435  
Menlo Park, CA 94025



December 29, 2003

TO: John Foretn, U.S. Environmental Protection Agency, Region 3, Philadelphia, Pennsylvania  
FROM: Theresa Presser  
SUBJECT: Technical Comments on the Draft Programmatic Environmental Impact Statement (DEIS) on Mountainstop Coal Mining and Associated Valley Fills in Appalachia concerning Selenium Sources, Monitoring, and Prediction of Ecosystem Effects

**SUMMARY**  
The Draft Programmatic Environmental Impact Statement (DEIS) on Mountainstop Coal Mining and Associated Valley Fills (MTM/VF) in Appalachia is critically deficient because 1) supporting documentation failed to adequately quantify and analyze the effects of selenium on aquatic life; and 2) proposed alternatives failed to address the protection of aquatic life from potential adverse effects of selenium. Although extreme Se contamination causes death in adult organisms, the responses of greatest concern are impairment of reproductive success (e.g. failure of eggs to hatch) and teratogenesis (deformities in juveniles) in birds and fish. Streamlining the permitting process and monitoring the decline in water quality and ecological health in affected watersheds do nothing to reduce selenium concentrations or limit impacts. Proposed control measures to neutralize coal mine drainage (CMD) with alkaline addition may exacerbate the mobility of selenium and hence its loading to the environment. All alternatives require mitigation of unavoidable impacts to waters of the United States. Proposed mitigation measures in the DEIS, specifically sedimentation ponds and associated wetlands, likely would allow elevated selenium risk environments for birds and fish because of increased opportunities for Se biomagnification in food webs.

The DEIS has left out 1) fundamental data on selenium concentrations in sediment, invertebrates, fish tissue, and bird eggs; and 2) information on dietary pathways and vulnerable predator species. These data are necessary to assess potential impacts from bioaccumulation of selenium in the areas of mountainstop mining and valley fills. However, based solely on selenium concentrations in streams and sedimentation ponds receiving discharges from valley fills, adverse ecological effects from selenium are likely to occur in the DEIS study area. The median selenium concentration in streams at filled sites was approximately two-fold above the toxicity threshold for protection of aquatic life (5 µg Se/L) and concentrations at individual sites were as much as ten-fold above (Appendix D, Stream Chemistry Final Report, 4/8/02). Sediment control ponds at the base of fills contained some of the highest selenium concentrations (up to 42 µg Se/L).

**GENERAL COMMENTS**

Several components of documented field case studies may be applicable to selenium mobilization in Appalachia. In contrast to many other contaminants, sources of selenium and significant environmental damage due to selenium have been well documented (Lemly, 1985; Presser, et al., 1994; Lemly, 1997; Hamiton, 1998; Skorupa, 1998; Presser and Piper, 1998; Lemly, 2002; Seiler et



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December 29, 2003

TO: John Forren, U.S. Environmental Protection Agency, Region 3, Philadelphia, Pennsylvania  
FROM: Theresa Presser  
U.S. Geological Survey, Water Resources Division, National Research Program, Menlo Park, California  
SUBJECT: Technical Comments on the Draft Programmatic Environmental Impact Statement (DPEIS) on Mountaintop Coal Mining and Associated Valley Fills in Appalachia concerning Selenium Sources, Monitoring, and Prediction of Ecosystem Effects

#### SUMMARY

The Draft Programmatic Environmental Impact Statement (DPEIS) on Mountaintop Coal Mining and Associated Valley Fills (MTM/VF) in Appalachia is critically deficient because 1) supporting documentation failed to adequately quantify and analyze the effects of selenium on aquatic life; and 2) proposed alternatives failed to address the protection of aquatic life from potential adverse effects of selenium. Although extreme Se contamination causes death in adult organisms, the responses of greatest concern are impairment of reproductive success (e.g. failure of eggs to hatch) and teratogenesis (deformities in juveniles) in birds and fish. Streamlining the permitting process and monitoring the decline in water quality and ecological health in affected watersheds do nothing to reduce selenium concentrations or limit impacts. Proposed control measures to neutralize coal mine drainage (CMD) with alkaline addition may exacerbate the mobility of selenium and hence its loading to the environment. All alternatives require mitigation of unavoidable impacts to waters of the United States. Proposed mitigation measures in the DPEIS, specifically sedimentation ponds and associated wetlands, likely would allow elevated selenium risk environments for birds and fish because of increased opportunities for Se biomagnification in food webs.

The DPEIS has left out 1) fundamental data on selenium concentrations in sediment, invertebrates, fish tissue, and bird eggs; and 2) information on dietary pathways and vulnerable predator species. These data are necessary to assess potential impacts from bioaccumulation of selenium in the areas of mountaintop mining and valley fills. However, based solely on selenium concentrations in streams and sedimentation ponds receiving discharges from valley fills, adverse ecological effects from selenium are likely to occur in the DPEIS study area. The median selenium concentration in streams at filled sites was approximately two-fold above the toxicity threshold for protection of aquatic life (5 µg Se/L) and concentrations at individual sites were as much as ten-fold above (Appendix D, Stream Chemistry Final Report, 4/8/02). Sediment control ponds at the base of fills contained some of the highest selenium concentrations (up to 42 µg Se/L).

#### GENERAL COMMENTS

Several components of documented field case studies may be applicable to selenium mobilization in Appalachia. In contrast to many other contaminants, sources of selenium and significant environmental damage due to selenium have been well documented (Lemly, 1985; Presser, et al., 1994; Lemly, 1997; Hamilton, 1998; Skorupa, 1998; Presser and Piper, 1998; Lemly, 2002; Seiler et

DPEIS leaves in doubt whether mining and mitigation can proceed while controlling environmental selenium concentrations within protective ranges.

The DPEIS cumulative effects analysis also may need to consider the combined effect of other environmental stressors imposed by a general decrease in water quality and ecological health in watersheds impacted by mining when evaluating selenium risk (DPEIS Appendix I). Environmental selenium data and ecological risk thresholds may be applicable as part of the proposed action to build a database (Action 12, DPEIS II C-69) to determine if a scientific basis for a cumulative-impact-threshold can be identified in the future.

A recommended selenium monitoring program would include a mass balance or budget through affected watersheds (i.e., inputs: fluxes and storage within environmental media; and outputs): food web analysis; life cycle analysis of vulnerable predators; and identification of elevated risk areas and seasons (Presser and Piper, 1998; Luoma and Presser, 2000). Studies of the documented, (DPEIS IIIC-17) well-developed, and predictable food web of pond systems and impoundments may be particularly important. Those species feeding on benthic and emergent aquatic invertebrates such as salamanders, Acadian Flycatcher, and Louisiana Waterthrush may warrant specific monitoring. Cattail wetlands suggested as mitigation to increase productivity, water quality, and biodiversity may require increased control measures and monitoring (DPEIS I-14).

Results of a comprehensive monitoring approach could be used to forecast ecological effects of selenium under an array of scenarios that could result from different resolutions of waste management issues. Effects-analysis to calculate risk would take into account not only reproduction, but also reduced growth and immuno-suppression. Source rock and waste analysis may show that some mining areas contain less selenium and that some mitigation measures have less risk in terms of mobility of selenium in food webs. Climatic and hydrologic effects and the progression of acid mine drainage may be attenuating variables.

Given below are specific technical comments and further recommendations for monitoring that may help provide a basis for understanding the biotransfer of selenium in the ecologically rich and diverse watersheds of Appalachia. Attachment 1 is a summary of background information for the DPEIS.

#### SPECIFIC COMMENTS AND DOCUMENTATION *Water Quality, Valley Fills, and Sedimentation Ponds*

The DPEIS documents that *selenium concentrations from the filled category sites were found to exceed AWQC for selenium at most (13 of 15) sites in this category; and the existence of selenium concentrations in excess of AWQC at most filled sites indicates a potential for impacts to the aquatic environment and possibly to higher order organisms that feed on aquatic organisms* (DPEIS Page III D-6, 7, and 10). Data mainly are given in Appendix D:

*Appendix D, Stream Chemistry Final Report, 4/8/02*

*AWQC (Water Quality Criterion), 5 µg Se/L*

*Five watersheds in the Primary Region of Mountaintop/Valley Fill Coal Mining*

*Sampling period, August 2000 through February 2001*

*Filled category (15 sites), 66 violations at 13 sites*

*Range 1.5 to 49 µg Se/L*

*Median at un-mined sites, 1.5 µg Se/L*

*Median at filled sites, 11.7 µg Se/L*

*Appendix D, Fisheries Study, 10/02*

5-5-5

5-5-4

Water chemistry analysis detected selenium in five of the eight sites in the Mud River watershed associated with valley fills (page 18).  
Range 9.5 to 31.5 µg Se/L.

The DPEIS (page 1-9) documents for the study areas that:

- 1) During 1985 to 1998 a) an average of 365 fills/year were constructed; and b) 5,168 acres of fill in 15,733 acres of watershed were approved.
- 2) During 1999 to 2001 a) an average of 217 fills/year were constructed; and b) 3,016 acres of fill in 26,570 acres of watershed were approved.

No other category of streams (i.e., streams in *un-mined areas* or streams in *mined areas without valley fills*) had violations of the selenium limit.

Sedimentation ponds for drainage from fills also were sampled as part of the *Stream Chemistry Final Report* (Figure Se-1, 24 to 42 µg Se/L), but were not illustrated as a separate category. Drainage from all valley fill areas is required to pass through a sedimentation pond, and additional ponds may be on a mine site where needed to control sediment and runoff from other disturbances (DPEIS III 1-7). If treatment is necessary, the sedimentation ponds are normally used as treatment basins and may be constructed in a series. Mitigation wetlands also may be constructed at the toe of filled areas.

#### Ecological Effects of Selenium

Little information and data also are given to help assess or predict selenium's current exposure and effects in the DPEIS study area or as a result of future mining activities. For example, selenium concentrations in fill material, sediment, invertebrates, fish tissue, bird eggs, or plants are not available.

Bioaccumulation and uptake via food is the most important route of transfer to upper trophic level species. Upper trophic level predators are more at risk than their prey, making it difficult to use traditional methods to predict risk from environmental concentrations alone. Skorupa (1998) described field case studies showing different degrees of selenium effects in a variety of wetlands and reservoirs with identified sources of selenium. An especially well documented case study exists for Belews Lake, North Carolina where selenium contamination resulted in local extinctions of most fish populations in a cooling water reservoir used to dispose of coal fly-ash (Lemly, 1985; 1997). The most well known case of selenium poisoning in a field environment is at Kesterson National Wildlife Refuge in the San Joaquin Valley, California (Presser and Ohlendorf, 1987). There, teratogenesis was widespread in populations of water birds and reproductive failure occurred in populations of fish because of agricultural drainage practices. A more recent case of acute selenium poisoning of livestock in Idaho has resulted in the death of more than 300 sheep who fed on forage grown on reclaimed waste dumps (Piper et al., 2000). Comprehensive reviews of the effects of Se in birds and fish are given in Skorupa and Ohlendorf, 1991; Heinz, 1996; USDO, 1998; Skorupa, 1998; Lemly, 2002; Hamilton and Hoffman, 2003; Ohlendorf, 2003.

As noted previously, based on established guidelines and the current understanding of selenium biogeochemistry, ecological effects from selenium in areas of valley fills are likely to occur. Sedimentation ponds may be of greatest concern. Selenium-contaminated impoundments appear to present greater risks to wildlife than selenium contaminated streams and rivers (Skorupa, 1998). Protective guidelines also are calculated that establish concern for the environment at 2 µg Se/L for freshwater (USFWS and NMFS, 2000). A 2-µg Se/L criterion is in place at evaporation ponds and wetland channel in the San Joaquin Valley, California. Additionally, USEPA is redefining selenium criteria for the protection of wildlife and aquatic life to take into account exposure from food webs (USEPA, 1998).

#### Human Health Advisories for Selenium

A national drinking water standard of 50 µg Se/L also has been developed based on concentration of selenium. Guidelines for public health warnings based on selenium in the diet have been developed in areas of the western United States (USDO, 1998). Advisories were issued in California when selenium concentrations in fish muscle reached or exceeded 2 µg Se/g, wet weight (6-12 µg Se/g dry weight, assuming 65-85% moisture). Consumption was not to exceed 112 grams of flesh per one- or two-week period or 20 grams of fish or bird muscle per day in addition to the regular daily intake. Children (less than age 15) and pregnant women were advised not to consume any fish or game from the posted areas. When edible tissues exceeded 5 µg Se/g on a wet weight basis, a complete ban on human consumption of fish was recommended. In the San Joaquin Valley of California, the postings are provided in several languages because a subsistence lifestyle provides the greatest risk.

#### Vegetation as Diet

In general, substantive risk to aquatic life occurs at selenium concentrations in diet > 7 µg Se/g, dry weight (USDO, 1998; Presser et al., 2004). Marginal risk to aquatic life from diet occurs at 3 µg Se/g. Various federal and state agencies recommend less than 5 µg Se/g in terrestrial forage as an action level of regional grazing level (U.S. Forest Service and the Idaho State Veterinarian Office). The chronic toxicity range for horses and sheep starts at 5 µg Se/g in forage (Puls, 1988).

#### Sources of Selenium

Coal is a recognized source of selenium both through selenium enriched particulates from the burning of fossil fuel and fly-ash disposal in aquatic environments (Lemly, 1985; 1997; 2002). Available data on a whole-coal basis for trace elements in coal samples from West Virginia show an average selenium concentration of 4.2 µg Se/g, with a range of 2.8 to 21.3 µg Se/g (DPEIS Appendix D, *Stream Chemistry Final Report*, 4/8/02; West Virginia Geological and Economic Survey, www.wvgs.wvnet.edu). The *Stream Chemistry Report* also states that disturbing coal and soils during mining could be expected to result in violations of the stream limit for selenium (page 74).

This range of selenium concentrations in West Virginia coals is comparable to that in source rocks of the Coast Ranges of California, but is lower than the range occurring in phosphorites of southeast Idaho. Processing activities in these problem areas call attention to anthropogenic connections to the environment (irrigation drainage, oil refining effluents, waste shale production), in addition to surface processes (weathering, erosion, and runoff) and hydrologic factors (aridity, drainage progression), that can ultimately mediate contamination.

Shales associated with coals that are displaced at the time of mining and consequently concentrated at fill sites may be a source of selenium to areas downstream of valley fill construction. In general, selenium sources to the environment are linked to organic-enriched sedimentary rocks—black shales, petroleum source rocks, phosphorites (Presser et al., 2004). Their global distribution is dependent on the fundamental role of essential elements such as selenium in determining primary productivity in ancient depositional environments. Coals are included as a subset of petroleum source rocks (Klemme and Ulmishek, 1991). As illustrated by the case of phosphorites in Idaho, waste shale in comparison to ore, is more enriched in selenium (80 µg Se/g v. 50 µg Se/g) (Presser et al., 2004).

Examples from the San Joaquin Valley, California and waste-rock sites at phosphate mines, Idaho highlight a present-day mechanism of selenium mobility in the environment that involves exposure of organic carbon-rich rock to the oxic conditions of the atmosphere and surface and ground water. Selenium is oxidized from relatively insoluble selenide (Se<sup>2-</sup>) and elemental Se<sup>0</sup> to soluble oxyanions, selenite (SeO<sub>3</sub><sup>2-</sup>) and selenate (SeO<sub>4</sub><sup>2-</sup>) under alkaline conditions (Presser, 1994; Piper et al., 2000). Organic selenium (operationally defined as organic selenide) also can exist in the dissolved phase.

#### ***Oxidizing, Alkaline Environments***

Acid mine drainage is traditionally of concern in mining areas, as it is in the DPEIS study area. However, methods of controlling coal mine drainage (CMD) with alkaline addition (page III E-9) may exacerbate the mobility of selenium and hence its loading to the environment. Selenium contamination problems have been associated with oxidizing, alkaline environments since the 1940's when studies focused on the potential toxicity of seleniferous open-range plants in arid and semi-arid western states (National Research Council, 1989; Presser et al., 1994). As a result, grazing was terminated on large areas of western rangeland. In the 1980s, the sources and mechanism of contamination in the San Joaquin Valley, California served as a prototype to develop criteria for selecting study sites for the National Irrigation Water Quality Program (Presser et al., 1994; Seiler et al., 2003). Among the six criteria contributing to selenium contamination was an oxidized, alkaline environment that promotes the formation of selenate, the mobile form of selenium.

5-5-2

#### **MONITORING RECOMMENDATIONS**

##### ***1) Expand Current Selenium Monitoring***

##### ***2) Forecast Selenium Effects Under an Array of Management Scenarios***

Determination of a Se mass balance or budget for the DPEIS watersheds and Se cycling through the components of the watershed's ecosystems are crucial because of Se bioaccumulation. A comprehensive linked approach would include all considerations that cause systems to respond differently to Se contamination. Comparison to multi-media guidelines could be made to assess exposure and risk. Results of a comprehensive monitoring approach then could be used to forecast ecological effects of selenium under an array of scenarios that could result from different resolutions of waste management issues.

The critical media to be monitored are water, particulate material, and prey and predator tissue. Because selenium is a reproductive toxin, selenium concentrations in fish and bird eggs also provide assessments for risk management that incorporate and concentrate many confounding site variabilities. Knowledge of potentially optimal indicators (e.g., benthic invertebrates) in pond systems would be necessary to fully explore feeding relations and document predator exposure. Variables to be addressed in a linked food web approach to include: 1) hydrologic units; 2) vulnerable predators; 3) elevated risk periods; 4) suspended particulate material patterns; 5) contaminant concentrations and speciation in sources that most influence bioavailability; 6) seasonality of invertebrate food webs; 7) food assimilation capacities and reactivities; 8) life cycles of predator species that inhabit each hydrologic unit; and 9) nesting habitats.

5-5-39

##### ***3) Ensure Selenium Methodology with a 0.4 µg Se/L Detection Limit***

The detection limit for the methodology used in the DPEIS stream study was noted as 3 µg Se/L (Appendix D, Stream Chemistry Final Report, 4/8/02, Table 2), but was further noted that the *estimated detection limit for Se in water using Method 200.8, Inductively Coupled Plasma-Mass Spectrometer, was around 5 µg Se/L (USEPA Methods Manual, 1983)*. This methodology and detection limit (3-5 µg Se/L) may not be sufficient in view of a USEPA criterion of 5 µg Se/L and ecological effects being of concern at levels of 2 µg Se/L. Guidance provided by USEPA requires a detection limit of 0.6 µg Se/L (*Interim Chemical/Biological Monitoring Protocol for Coal Mining Permit Application*, 11/19/00).

#### ***4) Continue Study of Selenium in Streams***

Quality controls issues were resolved concerning analysis of selenium in streams. However, results from *Lab 1* were discarded mainly because of elevated levels in *Blanks*. Duplicating this study with improved methodology and detection limit for selenium may prove informative.

5-5-3

Thank you for the opportunity to provide technical comments on several aspects of selenium chemistry and exposure in the environment as they relate to the DPEIS. If you have questions or need copies of referenced documents, please do not hesitate to call (650-329-4512, tpresser@usgs.gov).

Attachments: (1)

cc: Marc A. Sylvester, USGS, WRD, Menlo Park, CA  
Keith G. Kirk, USGS, WRD, Menlo Park, CA

12/29/03 Transmitted via 1) email to forren.john@epa.gov and 2) FedEx to John Forren, U.S. Environmental Protection Agency (3EA30), 1650 Arch Street, Philadelphia, PA 19103

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(USDHHS) U.S. Department of Health and Human Services, 1996, Toxicological profile for selenium: Agency for Toxic Substances and Disease Registry, Public Health Service, US Department of Health and Human Services, Atlanta, Georgia, 185 p.

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(USFWS and NMFS) U.S. Fish and Wildlife Service and National Marine Fisheries Service, 1998 and amended 2000, Biological opinion on USEPA's proposed rule for the promulgation of water quality standard: establishment of numeric criteria for priority toxic pollutants for the state of California: U.S. Fish and Wildlife Service and National Marine Fisheries Service, 260 p.

(USDOI) U.S. Department of the Interior (U.S. Fish and Wildlife Service, Bureau of Reclamation, Geological Survey, Bureau of Indian Affairs), 1998, R.A. Engberg (ed), Guidelines for interpretation of the biological effects of selected constituents in biota, water, and sediment: National Irrigation Water Quality Program, U.S. Department of Interior, Bureau of Reclamation, Denver, Colorado, p. 139-184 ([www.usbr.gov/nwqp/guidelines/index.htm](http://www.usbr.gov/nwqp/guidelines/index.htm)).

## ATTACHMENT 1, Summary of Background Information

### Location and Coal Production

The study area of the DEIS is located within the Appalachian Coalfield Region of the Appalachian Plateau physiographic province and Bituminous Coal Basin (DEIS I-5). The study area encompasses approximately 12 million acres and extends over portions of West Virginia, Kentucky, Virginia, and Tennessee. Surface coal mining production (million short tons) in the study area for 1998 was: southern West Virginia's 48.6; eastern Kentucky's 49.6; Virginia, 8.5; and Tennessee, 1.6 (DEIS III N-3 & 4). Ninety-five percent of the surface mining in southern West Virginia would be classified as MTM/VF mining as covered under this DEIS (DEIS III N-1). Estimated remaining years of surface production in West Virginia is 49 and in Kentucky is 108.

### Mountaintop Removal and Valley Fills

For large scale mountaintop mining to occur and excess spoils to be generated two factors must be coincident: 1) steep terrain and 2) sufficient coal reserves located close to the tops of mountains and ridges (DEIS III A-1). Removal of rock above and between coal seams results in waste material (spoils) being placed in disposal sites adjacent to mining. Typical locations for excess spoil disposal sites are valleys, known as heads-of-hollows or headwater stream reaches (DEIS I-1). The study area covers the region where valley fills have been constructed or will be constructed in the future as a result of coal mining activities.

### Ecosystems

Hydrologic conditions and geologic processes in the DEIS study area are such that most of the major rivers and tributaries east of the Mississippi River originate in the mountains of the Appalachian regions (DEIS III A-1&2). Some headwater streams are intermittent or ephemeral. Impounded water and wetlands also provide aquatic habitat in the DEIS study area (DEIS III D-1).

Ecoregions in the study area are unique because they combine characteristically northern species with their southern counterparts, and thus boast enormous richness and diversity (DEIS, III A-1). Headwater stream populations have the greatest potential for natural selection processes that may result in development of new species/subspecies.

The southern Appalachians have one of the richest salamander fauna in the world (IHC-21). Many species of birds, such as the Cerulean Warbler, Louisiana Waterthrush, and Acadia Flycatcher, depend on large areas of relatively unbroken forest (93% forest cover, DEIS II C-62) and headwater stream habitats (IHC-22). The DEIS study area is unique and important in the evolution and speciation of North American freshwater fishes (IV D-5). Fifty-six species of fish are present in the DEIS watersheds, with small headwater streams harboring populations with unique genetic diversity.

### Impacts

A decline in water quality is predicted in areas of surface mining because of the exposure of coal and overburden materials and increasing rates of oxidation of sulfur-bearing minerals such as pyrite (DEIS III D-6 & E-1). From historic data, streams classified as *filled* had lower numbers of total species and benthic species than un-mined streams. *Actions 5 and 6* (DEIS II C-43) address evaluating effects of mining operations on chemistry and biology and refining science-based protocols for assessing ecological function, making permit decisions, and establishing mitigation requirements.

### Cumulative Impacts

Landscape-scale cumulative impact studies indicate that watersheds subjected to mining drop in rank, signaling a decrease in ecological health (DEIS Appendix I). However, several alternatives restricting cumulative impacts to waters of the United States (e.g., prohibiting fills in one out of every two first order streams) were dismissed because limiting the loss of headwater streams to conserve the

health of the watershed ecosystem has not been proven (DEIS II D-6). According to the DEIS, existing data do not show that an across-the-board cumulative-impact-threshold could replace case-specific evaluations of all MTM/VF and other disturbances within a defined Cumulative Impact Area/watershed.

The DEIS proposes an action to build a database to determine if a scientific basis for a cumulative-impact-threshold can be identified in the future (*Action 12*, DEIS II C-69). Further associated actions would involve developing an interagency, interdisciplinary approach for NEPA and Clean Water Act aquatic cumulative impact assessments, including definition of the cumulative impact area for each resource of significance.

### Mitigation and Compensation

All alternatives require mitigation of unavoidable impacts to waters of the United States (DEIS IV B-8). Mitigation would compensate for functions lost by filling headwater streams. These practices include stream construction or enhancement, wetland construction, riparian habitat restoration or enhancement (DEIS IV B-8). Cattail wetlands, for example, have been suggested to increase productivity, water quality, and biodiversity (DEIS I-14). Off-site compensatory projects may be necessary because of limitations to functional replacements on reclaimed mine areas.

Mitigation areas often include *fill* sites and the drainages below *fill* sites (toes of fills). Valley fills act as reservoirs and provide a reliable stream of water downstream due to increased base flow in *filled* areas (DEIS I-14). The net effect is that stream segments that were once ephemeral and that supported only sporadic benthic life before mining, now flow perennially and support benthic life throughout the year. Topsoil substitution or replacement with re-vegetation is also a part of reclamation. The top ten feet of oxidized subsoil is loosely dumped to promote rooting and tree productivity (DEIS page III J-19).

### Monitoring

The *Interim Chemical/Biological Monitoring Protocol for Coal Mining Permit Application* (11/19/00), a guidance document, requires analyzing selenium to a detection limit of 0.6 µg Se/L as part of chemistry monitoring during the assessment of baseline conditions. Biological monitoring emphasizes quantitative surveys of organisms and physical habitat characterization.



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## **State or Commonwealth Agencies**



Betsy Child, Tennessee Department of Environment and Conservation



REC'D DEC 08 2003

STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
NASHVILLE, TENNESSEE 37243-0435

PHIL BREDESEN  
GOVERNOR

BETSY CHILD  
COMMISSIONER

December 1, 2003

Mr. John Forren  
U.S. EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

RE: Programmatic Draft Environmental Impact Statement concerning  
Mountaintop Mining / Valley Fills in Appalachia

Dear Mr. Forren:

Please find enclosed the detailed comments from our technical staff to the Mountaintop Mining Programmatic DEIS. Please consider these comments as the official and complete response on behalf of the State of Tennessee.

I am writing to emphasize one point. All of the alternatives you are evaluating represent different ways of managing the interface between the federal Clean Water Act and the Surface Mining Control and Reclamation Act. In Tennessee since we do not have a state mining program, we respond to such issues guided by our state Water Quality Control Act and the federal NPDES program. From this standpoint, it has been and will continue to be the position of the Department that we do not allow disposal of spoil or fill material from coal mining in streams as defined by our state regulations. This policy will remain unaltered whether you choose the preferred alternative or go with one of the others being evaluated. Thank you for this opportunity to comment.

Sincerely,

Betsy L. Child   
Betsy L. Child

BLC: AML

Enclosures



REC'D DEC 08 2003

STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
Division of Water Pollution Control, Mining Section  
Suite 220, State Plaza  
2700 Middlebrook Pike  
Knoxville, Tennessee 37921  
Telephone: (865) 594-8035

November 24, 2003

Mr. John Forren  
U.S. EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

RE: Programmatic Draft Environmental Impact Statement concerning  
Mountaintop Mining / Valley Fills in Appalachia

Dear Mr. Forren:

The U.S. Office of Surface Mining issues and inspects Surface Mining Control and Reclamation Act permits for coal mining in Tennessee, our Division of Water Pollution Control - Mining Section is responsible for NPDES permits for discharge of treated waste water and inspection of those permitted facilities for coal and non-coal mining in Tennessee. Since coal mining is considered a primary industry by the U. S. Environmental Protection Agency, their approval as well as OSM's Mining Permit issuance is necessary prior to issuance of NPDES permits to coal facilities.

The only coal mine excess spoil fills currently authorized for the discharge of waste water in Tennessee involve the placement of fill material in locations outside waters of the state. Only when the clearly planned objective has been restoration of damaged streams have we authorized the use of waters for fill or sediment control. The fills outside waters of the state of Tennessee have most often been referred to as "head-of-hollow" fills. Fills within waters of the state of Tennessee are not currently allowed and will not be allowed in the future. In Chapter 2, Alternatives, II. C. DETAILED ANALYSES OF THE ACTIONS TO ADDRESS ISSUES, the EIS makes reference to in lieu fee arrangements for stream mitigation activities. Such an arrangement has been discussed as a tool for mitigation of loss of waters of the state/U.S. as a result of federally funded highway projects. There is not an in lieu fee agreement which can be applied to mining projects in Tennessee.

The EIS also alludes to finalization of regulations and coordination between agencies to clarify buffer zone requirements. That clarification is sorely needed and only coordination between the various agencies will accomplish it.

5-7-1

12-1-1

5-7-3

12-1-2

Sincerely,  
*Paul Schmeierbach* by AMC  
Paul Schmeierbach  
Water Pollution Control, Knoxville Office



REC'D DEC 08 2003

STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Heritage  
14th Floor L&C Tower  
401 Church Street  
Nashville, Tennessee 37243-0447  
Phone 615/532-0431 Fax 615/532-0231

August 4, 2003

Mr. John Forren  
U. S. EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

Dear Mr. Forren:

The Division of Natural Heritage, Tennessee Department of Environment and Conservation, appreciates the opportunity to review and provide comment on the Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement (DEIS). The DEIS identifies a number of proposed actions to improve agency programs at the state and federal levels, which aim to enhance environmental protection and agency coordination during permit reviews under SMCRA and CWA consistent with the primary goal of minimizing adverse environmental impacts from mountaintop mining and excess spoil valley fills in Appalachia. The Tennessee Division of Natural Heritage (DNH) has reviewed the information submits the following comments for consideration.

With regard to the protection of rare, threatened, and endangered species, the DEIS described programmatic changes which would minimize adverse environmental impacts to federally listed species, however, gave inadequate mention to state-listed species. One report cited in the DEIS stated that, "surface coal mining and reclamation operations conducted in accordance with properly implemented state and Federal regulatory programs under SMCRA would not be likely to jeopardize the continued existence of listed or proposed species" (IVD-5, 6).

8-3-4

This is not necessarily absolute. One federally threatened land snail in Tennessee is limited to fewer than 12 linear miles of the Cumberland Plateau escarpment in Franklin County. Were this or similarly restricted species subjected to MTM/VF, the continued existence of that species could be jeopardized under permitted mining activities.

Additionally, the cumulative effects of MTM/VF could negatively impact other species of concern, including state listed species. In fact, many of the state listed species from the DEIS impact area are less common in Tennessee than some of the federally listed species. Conservation of these rare species will in part depend on whether they are given sufficient consideration when planning for future MTM/VF locations. The DNH requests that the DEIS give consideration to all state-listed plants and animals, regardless if such species are likely to become federally listed.

8-2-2

Among the CWA/SMCRA program improvements envisioned that could help minimize incidental takes of state and federally listed species is the development of a comprehensive baseline data collection system (ES-4). The DNH supports any and all plans that would emphasize rare species inventory and monitoring.

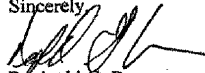
8-3-3

Another programmatic change, which the DNH supports and is common throughout each of the proposed alternatives, is the development of state-of-the science BMP's for reclamation techniques, revegetation species, and success measurement techniques for accomplishing post-mining land uses involving trees (ES-8, IVC-7). Regarding revegetation species, the DNH advocates planting and restoring the affected area with native trees, shrubs, forbs and warm and cool season grasses, which are compatible with hardwood reforestation. Revegetation of the area with plants listed by the Tennessee Exotic Pest Plant Council as harmful exotic plants should be prohibited. In the past, autumn olive, bicolor lespedeza, sericea lespedeza, fescue and other plants listed by the TNEPPC as invasive have been used in mine reclamation throughout this area. This has resulted in extensive degradation of native plant communities and wildlife habitat throughout the region.

In addition to supporting programmatic changes that emphasize inventory, monitoring, and conservation of rare species, the DNH also supports programmatic changes that would enhance ESA, CWA and SMCRA compliance. However, emphasis on compliance was not stressed in the document. The DNH feels that this is a critical part of the solution to minimizing adverse environmental impacts resulting from MTM/VF and needs to be better addressed in the EIS.

Thank you for the opportunity to comment on this proposal and for considering Tennessee's rare species throughout the planning of this DEIS. Should you have any questions, please do not hesitate to contact me at (615) 532-0434.

Sincerely,

  
Reginald G. Reeves  
Director

C: Alan Leiserson

DONALD S. DOTT, JR.  
DIRECTOR



PAUL E. PATTON  
GOVERNOR

COMMONWEALTH OF KENTUCKY  
**KENTUCKY STATE NATURE PRESERVES COMMISSION**

801 SCHENKEL LANE  
FRANKFORT, KENTUCKY 40601-1403  
(502) 573-2886 VOICE  
(502) 573-2355 FAX

November 26, 2003

Mr. John Forren, U.S. EPA (3EA30)  
1650 Arch Street  
Philadelphia, PA 19103

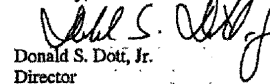
Dear Mr. Forren:

This letter serves as comment by the Kentucky State Nature Preserves Commission concerning the Draft Environmental Impact Statement for the reduction of adverse environmental impacts of mountaintop mining operations and excess spoil valley areas in Appalachia.

The Commission has three major concerns with the environmental impacts resulting from this method of coal mining extraction. First is the loss and fragmentation of a significant area of relatively mature, upland forest communities. This impact has the most potential to directly impact several endangered and threatened species including Indiana bat (*Myotis sodalis* - USFWS Endangered) and Cerulean warbler (*Dendroica cerulea* - USFWS Species of Management Concern). Second is the loss of perennial "blue line" and ephemeral headwater stream segments through the use of the upper portions of ravines for placement of spoil material. Third is the negative impact to water quality of streams downstream from these activities. The Commission believes that adoption of the Preferred Alternative (Alternative 2) will serve to reduce these impacts and we are in support of its implementation.

Thank you for the opportunity to comment on the Draft EIS at this time. Please feel free to contact me if any further comment is desired.

Cordially,

  
Donald S. Dott, Jr.  
Director



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18-1-3

8-3-4

8-1-2

8-2-2

5-7-2

1-3

Herbert Harper, Tennessee Historical Commission



**TENNESSEE HISTORICAL COMMISSION**  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
2941 LEBANON ROAD  
NASHVILLE, TN 37243-0442  
(615) 532-1550

REC'D JUN 30 2003

HENRY C. LIST  
SECRETARY

REC'D SEP 15 2003



PAUL E. PATTON  
GOVERNOR

COMMONWEALTH OF KENTUCKY  
**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET**  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ROBERT W. LOGAN  
COMMISSIONER  
FRANKFORT OFFICE PARK  
14 RILLY RD  
FRANKFORT KY 40601

September 9, 2003

June 20, 2003

Mr. John Forren  
U.S. EPA (3EA30)  
1650 Arch Street  
Philadelphia, Pennsylvania 19103

RE: EPA, DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT,  
MINING/VALLEY FILLS IN APPALACHIA, UNINCORPORATED, MULTI COUNTY

Dear Mr. Forren:

At your request, our office has reviewed the above-referenced Draft Programmatic Environmental Impact Statement in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). We concur that the proposed program has the potential to affect historic properties. In accordance with the document, all Tennessee projects undertaken within the proposed program must be submitted to our office for review and comment.

10-2-1

Questions and comments regarding project review may be addressed to Jennifer M. Barnett, 615-741-1588, ext. 17.

Your cooperation is appreciated.

Sincerely,

Herbert L. Harper  
Executive Director and  
Deputy State Historic  
Preservation Officer

HLH/jmb

John Forren  
US EPA (3ES30)  
1650 Arch St.  
Philadelphia, PA 19103

Dear Mr. Forren:

The Kentucky Department for Environmental Protection would like to offer the following comment concerning the Summary of Proposed Alternatives contained in your mountaintop removal Environmental Impact Statement (EIS) document.

In your upcoming deliberations on how to modify current SMCRA and Clean Water Act (CWA) permitting of stream loss due to coal mining waste disposal sites, please keep in mind that normally the states have a role in the 404 permitting process under Section 401 of the CWA. In the case of Kentucky, state legislation passed in 1994 has limited the role of the state 401 program in regulating stream loss covered under Nationwide 404 permit #21.

5-7-1

While this agency did not request and does not agree with the language contained in KRS 224.16-070 (attached), we are compelled to abide by it. In order for Kentucky to resume its 401 involvement in the processing of nationwide 21 permits, KRS 224.16-070 must be changed. To accomplish this, the Environmental Protection Agency (EPA) will need to incorporate this issue into its programmatic discussions with the coal industry on possible changes to the existing 404 permitting process.

Sincerely,

Robert W. Logan  
Commissioner

RWL:mw

Attachment



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APPENDIX I

224.16-070 Water quality certifications for surface coal mining operations for applicants eligible for Nationwide Permit 21 or 26.

(1) This section shall apply to the cabinet's issuance, waiver, or denial of water quality certifications for surface coal mining operations, as defined in KRS 350.010, if:

(a) The applicant for the water quality certification has applied to the cabinet for a permit in accordance with KRS Chapter 350 and the administrative regulations promulgated pursuant thereto;

(b) The applicant for the water quality certification is eligible for Nationwide Permit 21 or 26 issued in accordance with 33 U.S.C. 1344 and 33 C.F.R. Part 330, Appendix A;

(c) The applicant's surface coal mining operation will not impact waters of the Commonwealth designated by the cabinet in its water quality standards as outstanding state or national resource waters or as cold water aquatic habitat; and

(d) The applicant's surface coal mining operation will not impact waters of the Commonwealth which are wetlands one (1) acre or more in size.

(2) If the watershed above the toe of the farthest downstream permanent structure authorized pursuant to Nationwide Permit 21 or 26 is less than four hundred eighty (480) acres for the surface coal mining operation meeting the criteria of subsection (1) of this section, the cabinet shall issue a water quality certification containing only the standard conditions set out in paragraphs (a) to (e) of this subsection.

(a) All earthwork operations shall be carried out so that sediment runoff and soil erosion to waters of the Commonwealth are controlled and minimized. Best management practices for water pollution control shall be used by the surface coal mining operation.

(b) Heavy equipment, such as bulldozers, backhoes, and draglines, shall not be used or operated within waters of the Commonwealth outside of the boundaries of a permanent structure, unless that use cannot be avoided. If use of heavy equipment within waters of the Commonwealth outside the boundaries of a permanent structure is unavoidable, then the work shall be performed so as to minimize resuspension of sediments and disturbance to substrates, banks, or riparian vegetation.

(c) Measures shall be taken to prevent and to control spills of fuels, lubricants, and other materials from entering waters of the Commonwealth.

(d) Any fill or riprap shall be of a composition that shall not cause violations of water quality standards by adversely affecting the biological, chemical, or physical properties of waters of the Commonwealth. If riprap is used, it shall be of a weight and size that bank stress or slump conditions shall not occur.

(e) Removal of riparian vegetation outside the boundaries of a permanent structure shall be minimized.

(3)(a) If the watershed above the toe of the farthest downstream permanent structure authorized pursuant to Nationwide Permit 21 or 26 is greater than or equal to four hundred eighty (480) acres for the surface coal mining operation meeting the criteria of subsection (1) of this section, the cabinet may require a water quality certification containing conditions in addition to those standard conditions identified in subsection (2) of this section for the purpose of protecting water quality.

(b) The water quality certification may require mitigation at a maximum ratio of one (1) acre of mitigation area for every one (1) acre of permanent loss of waters of the

Commonwealth on the permitted area, except for waters of the Commonwealth isolated as a result of the permanent structure.

(c) For waters of the Commonwealth isolated as a result of a permanent structure, the maximum mitigation ratio shall be five-tenths (0.5) acre of mitigation area for every one (1) acre of those isolated waters.

(d) The cabinet shall accept mitigation on the permitted area, mitigation off the permitted area, mitigation banking of waters of the Commonwealth, or any combination thereof, or any other mitigation measure acceptable to the cabinet.

(e) Upon completion of all mitigation work required by the water quality certification required by this subsection, the surface coal mining operation shall obtain a certification from a registered professional engineer that all mitigation work has been completed in accordance with the conditions of the water quality certification. The surface coal mining operation shall promptly submit the professional engineer's certification to the cabinet. The cabinet shall promptly review the certification and provide to the surface coal mining operation written notice that all mitigation work has been successfully completed, or that further mitigation work is necessary to meet the conditions imposed by the water quality certification.

(4) The cabinet shall not require a water quality certification for a road crossing on the permitted area impacting less than two hundred (200) linear feet of waters of the Commonwealth.

(5) The cabinet shall confer with representatives of the surface coal mining industry and representatives of environmental organizations with an interest in water quality in developing a manual of approvable options for mitigation on permitted areas, mitigation off permitted areas, mitigation involving banking of waters of the Commonwealth, and removal of temporary sediment structures at surface coal mining operations as a mitigation option.

(6)(a) The cabinet shall have ten (10) working days to make a determination that an application for a water quality certification is administratively complete or to notify the applicant of specific deficiencies.

(b) The cabinet shall have forty (40) working days to review an administratively complete application for a water quality certification, to issue or waive that certification, or to deny that certification with specific deficiencies identified, and to notify the applicant of the final determination. If the cabinet has not notified the applicant of its final determination within forty (40) days of receiving an administratively complete application, the water quality certification shall be deemed waived.

(7) Nothing in this section shall be construed as abrogating the cabinet's ability to require water quality certifications for surface coal mining operations that do not meet the criteria of subsection (1) of this section.



**TENNESSEE WILDLIFE RESOURCES AGENCY**

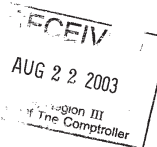
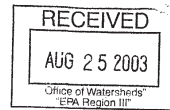
ELLINGTON AGRICULTURAL CENTER  
P. O. BOX 40747  
NASHVILLE, TENNESSEE 37204

REC'D SEP 02 2003

August 18, 2003

U.S. Environmental Protection Agency  
1650 Arch Street  
Philadelphia, PA 19103

Re: Draft Environmental Impact Statement  
Mountaintop Mining/Valley Fills  
Appalachia



Dear EPA:

The Tennessee Wildlife Resources Agency provides the following comments and recommendations on the programmatic DEIS.

- Placement of spoil material in waters of the state of Tennessee or in such a manner as to adversely impact waters of the state is a violation of both the Tennessee Water Quality Control Act and the Wildlife Code (Tennessee Code Annotated).
- Current requirements for buffer zones around streams are grossly inadequate for mountainous terrain. The minimum riparian protection zone for coal mining should be 200 feet on either side of Appalachian mountain streams.
- Remining and reclamation of abandoned mine lands should be required as mitigation for all surface mining activity.
- Reclamation for surface mine impacts on Appalachian and Cumberland Mountain hardwood forest must include compensatory mitigation and/or reforestation.
- This document does not further protection or conservation of aquatic resources and exhibits near total disregard for the spirit, intent, and letter of federal water pollution law.

5-7-1

19-3-3

19-2-3

4-2

Sincerely,

*Aubrey D. McKinney*  
Aubrey D. McKinney, Chief  
Environmental Services Division

ADM:bg

**The State of Tennessee**

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REC'D DEC 29 2003

**COMMONWEALTH of VIRGINIA**

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219  
Mailing address: P.O. Box 10009, Richmond, Virginia 23240  
Fax (804) 698-4500 TDD (804) 698-4021  
www.deq.state.va.us

Robert G. Burnley  
Director  
(804) 698-4000  
1-800-592-5482

December 24, 2003

Mr. John Forren  
U.S. Environmental Protection Agency  
Mail Stop 3EA30  
1650 Arch Street  
Philadelphia, Pennsylvania 19103

RE: Draft Programmatic Environmental Impact Statement, Mountaintop Mining/  
Valley Fills in Appalachia  
DEQ-03-106F

Dear Mr. Forren:

The Commonwealth of Virginia has completed its review of the above-referenced document. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies and localities joined in this review:

Department of Environmental Quality  
Department of Game and Inland Fisheries  
Department of Agriculture and Consumer Services  
Department of Conservation and Recreation  
Department of Health  
Marine Resources Commission  
Department of Mines, Minerals, and Energy  
Buchanan County  
Lee County  
Wise County.

In addition, the following agencies, planning district commissions, and localities were invited to comment:

Department of Historic Resources  
Department of Forestry

Mr. John Forren  
Page 2

Lenowisco Planning District Commission  
Cumberland Plateau Planning District Commission  
Russell County  
Scott County  
Tazewell County.

#### Project Description

The Environmental Protection Agency, the Army Corps of Engineers, and two agencies of the Department of the Interior (Fish and Wildlife Service and Office of Surface Mining) joined with the West Virginia Department of Environmental Protection to consider new or revised program guidance, policies, and regulations to minimize adverse environmental effects of mountaintop mining and valley fill (hereinafter "MTM/VF") operations within the Appalachian study areas in West Virginia, Virginia, Kentucky, and Tennessee. (In Virginia, these include the six counties listed above.)

As stated in the Draft Programmatic Environmental Impact Statement (hereinafter "Draft EIS"), the removal of overburden (rock above coal seams) and interburden (rock between coal seams) during mountaintop surface mining results in excess spoil, because the rock will not fit back into the mining pit. The excess spoil is placed in disposal sites. Typical locations for these are valleys, also known as heads-of-hollows or uppermost (headwater) stream reaches. The spoil is placed in engineered earth and rock structures known as excess spoil disposal areas, or valley fills (page I-1).

According to the Draft EIS, the study area was chosen because it includes watersheds where excess spoil fills, otherwise known as valley fills, have been constructed or are likely to be constructed in the future (page I-5, section E).

The Draft EIS describes and analyzes a no-action alternative, which is maintenance of the present regulatory programs and processes, and three action alternatives. The summary pages present these alternatives in some detail; highlights follow (pages ES-5 through ES-8):

- ♦ *Action Alternative 1:* Initial determination by the Army Corps of Engineers, through the individual permit process pursuant to section 404 of the federal Clean Water Act, of the size, number, and location of valley fills in waters of the United States and reliance on the Corps by the Office of Surface Mining (Department of the Interior) and other regulatory agencies; reliance in the other direction in the case of individual permits; Corps as lead agency for Endangered Species Act consultation; other regulatory programs defer to Corps on Section 404 approval. In this alternative, the Corps would accomplish appropriate National Environmental Policy Act analysis,

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determining whether an Environmental Assessment or an Environmental Impact Statement is required.

- ♦ *Action Alternative 2 (preferred alternative):* Cooperative determination of size, number, and location of valley fills allowed in waters of the United States; Office of Surface Mining rules would make the stream buffer zone more consistent with the Clean Water Act and Surface Mining Control and Reclamation Act; excess spoil rules would be modified to provide for minimization and alternatives analysis, similar to the Section 404(b)(1) Guidelines. The Corps would make decisions on nationwide versus individual permits, and accomplish NEPA review of individual permits. With regard to Nationwide No. 21 permits, the surface mining agency (in Virginia's case, the Department of Mines, Minerals, and Energy) would take the lead on Endangered Species Act coordination. As with Alternative 1, the Corps would accomplish appropriate National Environmental Policy Act analysis, determining whether an Environmental Assessment or an Environmental Impact Statement is required.
- ♦ *Action Alternative 3:* The Corps would begin processing mountaintop mining and valley fills as Nationwide No. 21 permits and few projects would require individual permits. The surface mining agency would take the primary role of joint application review. The Corps would base its Clean Water Act authorizations largely on the surface mining review, adding off-site mitigation. Federal agencies (the Office of Surface Mining Reclamation and Enforcement) and state agencies with regulatory authority would develop guidance for consistent definitions, refine the uniform protocols for assessing ecological function and making permit decisions, and undertake other activities related to the regulation of mountaintop surface mining.

#### General Comments on the Draft EIS

According to the Department of Mines, Minerals, and Energy (DMME), the Draft EIS presents information, and is based on analysis, not equally applicable or relevant to the states affected by the proposed or alternative regulatory program. Specifically, the Draft EIS recommends a federal mandate, binding on Virginia that stems from conditions and a legal agreement in West Virginia (Draft EIS, pages I-8 and I-9). The Draft EIS should not assume that the processes agreed to with West Virginia are also necessary in other states, or that Virginia, at least, would follow them (enclosed DMME comments, page 4).

Similarly, the Draft EIS makes assertions that do not take Virginia conditions into account. For example, it dismisses wetlands created by mining as non-jurisdictional (Draft EIS, page ES-4), overlooking the fact that in Virginia, isolated wetlands are regulated and protected under state law (*Virginia Code* section 62.1-44.15:5) unless they are determined to be small and of limited ecological value. DMME states that for this

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reason, any conclusions based on the assumption that such wetlands are not regulated would be unfounded (DMME comments, page 1). The Draft EIS also refers to a number of stream studies in assessing environmental consequences of the proposed program (Chapter IV); however, none of these studies took place in Virginia, and the resulting findings may not apply here (DMME comments, pages 9-10).

DMME's overall conclusion is that the Draft EIS process should be stopped in favor of selecting a "true no-action alternative" that leaves the existing regulatory program in place (DMME comments, page 1). If the EIS process is not stopped, then Alternative 3 should be adopted. DMME disagrees with some of the information presented in the Draft EIS. Detailed comments from DMME are enclosed. (See also "Environmental Impacts and Mitigation," items 2 and 5, below.)

#### Environmental Impacts and Mitigation

*1. Natural Heritage Resources.* The Virginia Department of Conservation and Recreation (DCR) functions to preserve and protect the Commonwealth's environment and advocate the wise use of its scenic, cultural, recreational, and natural heritage resources. "Natural heritage resources" are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, significant geologic formations, and similar features of scientific interest.

The southern Appalachian mountains were identified, by the Nature Conservancy in 2000, as one of the six biodiversity hot spots for species rarity and richness in the United States. This designation was generally based on the rich freshwater fauna (especially fish and mussels) found in this area, which are dependent on the region's rivers and streams (Stein, *et al.*, 2000). The Upper Tennessee River drainage in Virginia, including the Clinch, Holsten, and Powell Rivers, supports a very diverse assemblage of fish and mussels, including many species that are globally rare and critically imperiled. Mining operations in a significant portion of the Appalachian coalfields of extreme southwestern Virginia are conducted in and near the uppermost (headwater) stream reaches of the Tennessee River drainage. DCR states that the placement of excess spoil from mining operations in valleys, or head-of-hollows, in these watersheds, could potentially impact downstream fish and mussel populations (as well as other aquatic organisms.)

While DCR expresses concern for the aquatic resources downstream of the mining operation, DCR also recognizes the benefits associated with reclamation activities associated with abandoned mined lands and reconnection of cut-off headwater streams to their lower reaches. DMME reports that 70-80% of areas currently being mined in Virginia are previously mined lands (DMME comments, pg. 12.)

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The Department of Conservation and Recreation's Biotics Data System documents that a number of listed endangered and threatened species can be found in the proposed mountaintop mining area. Specifically, according to the listings and abbreviations provided by DCR (enclosed), there are nine (9) species listed as endangered by the federal government and sixteen (16) species listed as endangered by the state government.

The Virginia Department of Agriculture and Consumer Services, which has jurisdiction over state-listed endangered or threatened plant and insect species, acknowledges that the Department of Mines, Minerals and Energy, the regulatory authority in Virginia under the Surface Mining Control and Reclamation Act, will continue to consult with the Fish and Wildlife Service and appropriate state agencies regarding federally- and state-listed endangered and threatened species.

*2. Wetlands and Water Quality.* DEQ's Water Division agrees that federal and state regulations, policies, and guidance relative to MTM/VF activities should be consistently and fairly applied. The preferred alternative identifies an interim impact threshold of 250 acres. DEQ's Water Division recommends establishment of some reasonable threshold limit for valley fills (such as a certain linear footage of stream impacts) that is protective of the environment by reducing impacts to surface waters from mining activities. Because many valley fill activities occur in headwaters of first-order streams, the activities may have far-reaching implications for downstream water quality. DEQ's Water Division indicates that appropriate technical studies should continue to be conducted before the authorization of any valley fill. These studies should include such subjects as:

- fish assemblages present
- benthic macro-invertebrates
- threatened and endangered species, particularly freshwater mussels (see item 1, above)
- stream geomorphology.

The results of technical studies should be used as a baseline to enable avoidance or minimization of impacts to the aquatic community (as required by Section 404(b)(1) of the Clean Water Act as well as by state law), and to determine the appropriate compensation for unavoidable impacts.

Unavoidable water quality impacts from valley fills will require a Virginia Water Protection Permit from DEQ, and may require a Virginia Pollutant Discharge Elimination System (VPDES) permit for construction. Point source discharges, if any, may require a VPDES discharge permit. See "Regulatory and Coordination Needs," item 1, below.

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DEQ's Water Division states that, based upon information provided in the wetland technical report, wetland impacts associated with valley fill activities will be minimal, because wetlands are not found in significant abundance in steep-slope terrain. Most wetlands occurring in these areas are associated with riparian buffers along streams, streams, and some plateau areas. Accordingly, the most significant impacts on aquatic resources from MTM/VF activities will be loss of stream habitat and riparian areas.

Besides direct loss of stream habitat, secondary impacts should be evaluated prior to authorization of valley fills. Technical studies to assess potential secondary impacts should include:

- observable and measurable changes to the downstream geomorphology of the stream;
- degradation of downstream habitat from sediment transport;
- flow rates; and
- changes in water chemistry, including:
  - temperature
  - pH
  - dissolved oxygen
  - conductivity
  - total dissolved solids
  - alkalinity
  - calcium hardness
  - ammonia
  - nitrate
  - phosphate.

Compensation for unavoidable impacts should also take secondary impacts into account.

According to the Department of Mines, Minerals, and Energy (DMME), the EIS concludes that wetlands created by mining are not generally of high quality, and non-jurisdictional from the standpoint of Section 404 regulation under the Clean Water Act (Draft EIS, page ES-4). Also, streams mentioned by name in the EIS do not include any in Virginia, so conclusions relative to Virginia streams may not be valid (DMME comments, page 9). The same is true, according to DMME, for a number of studies described in the EIS (Appendix D), including those on wetland resources on steep slopes in West Virginia, headwater stream values, a benthic survey in Kentucky, and an ecological assessment in West Virginia (DMME comments, page 10). On the other hand, as the DCR indicates, a Virginia study did show negative impacts to the benthic community, consistent with the Kentucky results (enclosed DCR comments, dated December 23, 2003, page 2, item 4).

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3. *Water Supply.* According to the Virginia Department of Health's Office of Drinking Water, there are a limited number of water intakes that would be affected by MTM/VF activities. Known intakes include Pennington Gap, St. Paul, Wise County Public Service Authority, and possibly Richlands. Other water treatment plant sources are small mountaintop reservoirs, or larger reservoirs like Pound Lake or Flannagan Reservoir.

The Department of Health's Office of Drinking Water should be given opportunity to comment on applications for any VPDES permits for valley fills, so as to review them for water supply impacts.

In addition, MTM/VF activities proposed in a watershed within 5 miles of a water supply intake should be announced to the Office of Drinking Water and to the waterworks owner. The Office of Drinking Water assumes that runoff ponds and silt fences will be required to contain runoff in order to protect stream water quality.

4. *Wildlife Resources Management.* Under *Virginia Code* Title 29.1, the Department of Game and Inland Fisheries (DGIF) is the primary wildlife and freshwater fish management agency in the Commonwealth. DGIF has full law enforcement and regulatory jurisdiction over all wildlife resources, inclusive of state and federally endangered or threatened species, but excluding listed insects. The agency maintains a comprehensive system of databases of wildlife resources that is available through the Agency's site at [www.dgif.state.va.us](http://www.dgif.state.va.us), in the "Wildlife" section from the link to "Wildlife Information Online." DGIF determines likely impacts on fish and wildlife resources and habitats, and recommends appropriate measures to avoid, reduce, or compensate for those impacts. For more information on the Wildlife Information Online Service, the proponents may contact DGIF (Kathy Quindlen Graham, telephone (804) 367-9717).

The Department of Game and Inland Fisheries is concerned primarily with potential impacts to endangered and threatened species, trout waters, and other terrestrial and aquatic resources. The existing programs provide for the Department's review of, and comments on, mountaintop mining and valley fills. Provided that this coordination continues, the Department of Game and Inland Fisheries concurs with the recommendation by the Department of Mines, Minerals, and Energy that the EIS process be abandoned (see next item).

#### 5. *State-level Management Concerns.*

(a) *Department of Mines, Minerals, and Energy.* The Department of Mines, Minerals, and Energy (DMME) and the Department of Game and Inland Fisheries prefer the current management system of existing programs administered by DMME, the Army Corps of Engineers, and the Environmental Protection Agency. DMME opposes the

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preferred alternative, recommending instead that the EIS process be ended (see the enclosed DMME comments, page 1).

As mentioned above (see “General Comments...”), DMME indicates that the Draft EIS is predicated on conditions in the coal fields of West Virginia, and that some of its recommendations on the future of the regulatory program are based on a settlement agreement with West Virginia. These conditions differ in Virginia and other states, and the agreement with West Virginia may not be relevant to or needed in Virginia or other states (DMME comments, page 4).

(b) *DEQ’s Southwest Regional Office.* DEQ’s Southwest Regional Office indicated that the Norfolk District of the Army Corps of Engineers (“Corps”) regulates coal mining activities mainly through the Nationwide Permit No. 21 (NWP-21) for Surface Coal Mining. DEQ does not issue separate Virginia Water Protection Permits for coal mining activities that qualify for the NWP-21. Projects that exceed the NWP-21 threshold are permitted under the DMME’s NPDES permit program using guidelines established in the Virginia Water Protection Program.

DEQ’s Southwest Regional Office recommends several approaches that might contribute to more effective review of coal mining activities. These include the following.

- Incorporate requirements for minimization of impacts and alternatives analysis for excess spoil disposal into Surface Mining Control and Reclamation Act (SMCRA) permit authorization. Such rule-making would be more consistent with Clean Water Act section 404(b)(1) guidelines and allow agencies to work together instead of trying, sometimes at cross-purposes, to fulfill guidelines separately.
- Develop of advanced identification of disposal sites (ADID) and watersheds unsuitable for fill could encourage alternative valley fill solutions from the beginning of the project. The ADID designation would give permittees a better idea of the viability of a project before their resources are committed.
- Continue rule-making relative to the stream buffer zone rule and excess spoil disposal.

6. *Local Comments.* Buchanan, Lee, and Wise Counties indicated no comments on the document, and Wise County indicated no objection to the preferred alternative. As indicated above, Russell, Scott, and Tazewell Counties were invited to comment.

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#### Regulatory and Coordination Needs

1. *Water Quality Regulation.* As mentioned above, valley fill activities may require a Virginia Water Protection Permit and a VPDES permit for construction. The Virginia Water Permit program is administered by DEQ’s Southwest Regional Office. VPDES (NPDES) permits for coal mining operations are administered by DMME. As indicated above, Virginia Water Protection Permits are not issued for coal mining activities that qualify for the Nationwide Permit No. 21, which is issued by the Army Corps of Engineers. For information on DMME’s NPDES permit program, the Department of Mines, Minerals, and Energy (Steve Walz, telephone (804) 692-3211) may be contacted. Questions on other water permits may be addressed to DEQ’s Water Division (Ellen Gilinsky, telephone (804) 698-4375) or DEQ’s Southwest Regional Office (Allen Newman, telephone ((276) 676-4804).

2. *Subaqueous Bed Encroachment.* The Virginia Marine Resources Commission has permit jurisdiction over any encroachments in, on, or over the beds of the rivers, streams, and creeks that are the property of the Commonwealth, pursuant to *Virginia Code* section 28.2-1200 *et seq.* Accordingly, if any portion of MTM/VF activities involves any encroachments channelward of ordinary high water along natural rivers and streams, a permit may be required from the Commission. Questions on this requirement may be addressed to the Commission (Randy Owen, telephone (757) 247-2200).

3. *Water Supply.* As mentioned above (“Environmental Impacts and Mitigation,” item 3), the Virginia Department of Health’s Office of Drinking Water (Alan Weber, telephone (804) 371-2883) should be given opportunity to comment on (1) any MTM/VF activities that are proposed within 5 miles of a water supply intake and (2) any applications for VPDES permits for valley fills.

#### Review Process

We are grateful for the extension of the comment deadline from August 29, 2003 to January 4, 2004. The added time enabled Virginia agencies to have an extended discussion of the regulatory program and exchange views regarding the proposed changes therein. The Department of Mines, Minerals, and Energy provided extensive comments, which are enclosed.

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Thank you for the opportunity to review the Draft EIS. The detailed comments of the reviewing agencies are enclosed.

Sincerely,



Michael P. Murphy, Director  
Division of Environmental Enhancement

Enclosures

cc: Derral Jones, DCR  
Keith R. Tignor, DACS  
Alan D. Weber, VDH  
Ellen Gilinsky, DEQ-Water  
Alan J. Newman, DEQ-SWRO  
Randall Owen, MRC  
Brian D. Moyer, DGIF  
Ethel R. Eaton, DHR  
Steven Walz, DMME  
Gerald P. Wilkes, DMME  
J. Michael Foreman, DOF  
Andrew Chafin, Cumberland Plateau PDC  
Ronald C. Flanary, Lenowisco PDC  
W. J. Caudill, Jr., Buchanan County  
D. Dane Poe, Lee County  
Edward L. Sealover, Wise County  
James Gillespie, Russell County  
John Strutner, Scott County  
James Spencer, Tazewell County  
Karen L. Mayne, USFWS  
J. Robert Hume, ACOE  
Ellie L. Irons, DEQ-OEIR

W. Tayloe Murphy, Jr.  
Secretary of Natural  
Resources



Joseph H. Maroon  
Director

**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

203 Governor Street  
Richmond, Virginia 23219-2010  
(804) 786-6124

MEMORANDUM

Date: 23 December 2003  
To: Charles H. Ellis, III, Virginia Department of Environmental Quality  
From: Derral Jones, Planning Bureau Manager  
Subject: DEQ#03-106F: Mountain Top Mining/Valley Fills in Appalachia

The Department of Conservation and Recreation (DCR) functions to preserve and protect the environment of the Commonwealth of Virginia and advocate the wise use of its scenic, cultural, recreation and natural heritage resources. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, state unique or exemplary natural communities, significant geologic formations and similar features of scientific interest.

The southern Appalachians were identified as one of the six biodiversity hot spots for species rarity and richness in the United States in 2000 by The Nature Conservancy and NatureServe. This designation was generally based on the rich freshwater fauna (especially fish and mussels) found in this area, which is dependent on the region's rivers and streams (Stein et al., 2000). The Upper Tennessee River drainage in Virginia, including the Clinch, Holston, and Powell rivers, supports a very diverse assemblage of fish and mussels, including many species that are globally rare and critically imperiled. Mining operations in a significant portion of the Appalachian coalfields of extreme southwestern Virginia are conducted in and near the uppermost (headwater) stream reaches of the Tennessee River drainage. The placement of excess spoil from mining operations in valleys, or head-of-hollows, in these watersheds, could potentially impact downstream fish and mussel populations (as well as other aquatic organisms).

In reference to the Department of Mines, Minerals and Energy comments on Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement, DCR would like to provide the following comments:

- 1) On page 5, Chapter III.D -Impact Producing Factors to Headwater Streams from Mountaintop Mining, DMME stated that drainage structures associated with mining can provide benefits that could offset aquatic impacts. The study entitled Ecotoxicological Evaluation of Hollow Fill Drainages in Low Order Streams in the Appalachian

*Conserving Virginia's Natural and Recreational Resources*

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Mountains of Virginia and West Virginia by Timothy Merricks concluded that settling ponds would enhance collector filterer populations. The study by Timothy Merricks, although it may be scientifically sound, should not be regarded as the definitive study on the impacts of hollow fill mining in Virginia. Rather, it is the first of many needed studies on this topic. Merricks' study was of short duration (2 years), limited geographic scope (only a few of his study sites were actually in Virginia; others were in West Virginia), and confined to the upper reaches of each watershed. It did not address issues such as the long-term impacts of hollow fill mining, catastrophic events, potential impacts to aquatic biota farther downstream in the watershed, or evaluate a diverse array of study site conditions.

6-6-4

- 2) On page 6, Chapter III. F-Appalachian Forest Communities DMME states that 85 % of reclaimed mined lands in the study area are returned to forests and most are returned to the approximate original contour including re-establishing drainage patterns. DCR recognizes the benefit of reforestation activities on abandoned mined lands associated with the mountaintop mining process. According to DCR staff, the forests may be restored, however the forest type and cover will be different due to limited soils and forest age difference.

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- 3) On page 9, in reference to page IV.B-1 section titled Consequences Common to the No Action Alternatives and Alternatives 1,2, and 3. DMME stated these alternatives as well as the no action alternative should take into account the headwaters streams are replaced with diversion ditches and drainage systems in and around fills. According to Dr. Roble, these altered systems are very unlikely to support the same biological communities as undisturbed headwater streams. This was also stated by Dr. Bruce Wallace, University of Georgia, at the Headwater Streams Symposium (Mountaintop Mining/Valley Fills in Appalachia-Draft Programmatic Environmental Impact Statement CD). DCR recognizes the benefit associated with reclamation activities associated with abandoned mined lands and reconnection of cut-off headwater streams.

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- 4) On page 10, DMME stated the Kentucky Mountaintop mining benthic macroinvertebrate survey has limited usefulness because it is specific to four counties and limited duration of the study. DMME also stated the conclusion from the Kentucky study that mountaintop mining and valley fill negatively impacted benthic health did not match the Virginia study (Ecotoxicological Evaluation of Hollow Fill Drainages in Low Order Streams in the Appalachian Mountains of Virginia and West Virginia). However, according to Dr. Steve Roble the survey sites listed below in the VA study and overall survey results did show a negative impact to the benthic community.

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- A. A Middle Creek, VA site associated with a recent hollow fill had reduced total species richness, reduced EPT richness and lower % EPT in 1 of 2 years at a recent hollow fill. Hollow fill sites in this drainage that lacked holding or settling ponds had reduced clam growth rates.
- B. South Fork of Pound River (SFPR) and Powell River sites with hollow fills had decreased benthic macroinvertebrate richness vs. reference sites

- C. Overall elevated metal (Al, Cu) levels in hollow fill drainages, especially in the absence of settling ponds.
- D. Some hollow fill streams were acutely toxic to test organisms
- E. Hollow fill drainages were characterized by a more tolerant biotic community (lower total species richness, lower EPT richness, lower % EPT and elevated Chironomidae populations) than reference streams or sites below settling ponds.

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Thank you for the opportunity to comment on these draft comments.

**Ellis, Charles**

From: Rene Hypes [rnhypes@dcrr.state.va.us]  
Sent: Thursday, December 18, 2003 5:40 PM  
To: Ellis, Charles  
Cc: J. Chris Ludwig; Steve Robie; Cynthia Waymack; Thomas Smith  
Subject: Natural Heritage Resources List -Mountaintop Mining



MountaintopMiningTab  
12/18/03

Charlie,

Ellis requested I send you a list of the natural heritage resources for the proposed mountaintop mining area by 12/18. I drew the project boundaries from the large scale map included in the EIS to generate the natural heritage resources list. I have attached the list which may be modified if better boundaries are identified for the project area. Please let me know if you need any additional information. As I mentioned to Ellis we are meeting with DMME on Monday(12/19) by conference call to further discuss this project.

Take Care and Have A Nice Holiday!

S. Rene Hypes  
Project Review Coordinator  
DCR-DNR  
217 Governor Street  
Richmond, Virginia 23219  
804-371-2708 (phone)  
804-371-2674 (fax)  
srhypes@dcrr.state.va.us <mailto:srhypes@dcrr.state.va.us>

**Aquatic Natural Heritage Resources within the Proposed Study Area for Mountaintop Mining**

Common Name	Scientific Name	Federal Status	State Status	Global Rank	State Rank	Fws. ssc
Tennessee Clubshell	Pleurobema oviforme			G5	S253	
Tennessee Pigtoe	Fusconaia batesiana		SC	G2G3	S253	SOC
Gilt Darter	Percina evides			G4	S2	
Swannanoa Darter	Etheostoma swannanoa			G4	S2	
Oyster Mussel	Epioblasma capaxformis	LE	LE	G1	S1	
Dusky Darter	Percina solara			G5	S152	
Tennessee Pigtoe	Fusconaia batesiana		SC	G2G3	S253	SOC
Golden Darter	Etheostoma denoncourtii		LT	G2	S1	SOC
Tennessee Holesplitter	Lasmigona holstonia		LE	G3	S1	
Brown Supercoll	Paravivrea septedens		LT	G1	S1	SOC
Black Sculpin	Cottus baileyi			G4Q	S2	
Ten Riffleshell	Epioblasma florentina walkeri	LE	LE	G1T1	S1	
	Mussel concentration site			GNR	SNR	
Fine-rayed Pigtoe	Fusconaia cuneolus	LE	LE	G1	S1	
Slabside Pearlmussel	Lexingtonia dolabelloides	C	LT	G2	S2	
Onyx Rocksnail	Leptoxis praerosa			G5	S153	
Fragile Papershell	Leptodea fragilis		LT	G5	S2	
Spiry River snail	Io fluviatilis		LT	G2	S2	SOC
Helibender	Cryptobranchius alleganiensis		SC	G3G4	S253	
Black Sandshell	Ligumia recta		LT	G6	S2	
Sheepsnose	Platyhossus cyphus		LT	G3	S1	
Black Sculpin	Cottus baileyi			G4Q	S2	
Deertoe	Truncilla truncata		LE	G5	S1	
Rough Rabbits Foot	Quadrula cylindrica strigilata	LE	LE	G3T2	S2	
Purple Bean	Villosa perpurpurea	LE	LE	G1	S1	
Slabside Pearlmussel	Lexingtonia dolabelloides	C	LT	G2	S2	
Shiny Pigtoe	Fusconaia cor		LE	G1	S1	SOC
Little-winged Pearlmussel	Pegias fabula	LE	LE	G1	S1	
River Radhorse	Moxostoma carinatum		SC	G4	S253	
Clinch Sculpin	Cottus sp. 4			G1G2	S152	SOC
Blotchside Logperch	Percina burtoni		SC	G2	S1	SOC
Bluebreast Darter	Etheostoma caeruleum		SC	G4	S2	
Channel Darter	Percina copelandi		SC	G4	S2	
Spiry Softshell	Apalone spinifer			G5	S2	
Tennessee Dace	Phoxinus tennesseensis		LE	G3	S1	
Green-faced Clubtail	Gomphus viridifrons			G3	S2	

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Aquatic Natural Heritage Resources within the Proposed Study Area for Mountaintop Mining

Stonescat	Noturus flavus		SC	G5	S2	
Fluted Kidneyshell	Ptychobranchus subleritum	C		G2G3	S2	
Snuffbox	Epiplatysma triquetra		LE	G3	S1	
Fanshell	Cyprogenia stageria	LE	LE	G1	S1	
Purple Back	Quadrula pustulosa		LT	G5	S2	
Cumberland Combshell	Epiplatysma brevians	LE	LE	G1	S1	
Appalachian Monkeyface	Quadrula sparsa	LE	LE	G1	S1	
Elkape	Aleamidonta marginata		SC	G4	S2	
Slippershell Mussel	Aleamidonta viridis		LE	G4G5	S1	
Spectacle Case	Cumbariandia monodonta		LE	G2G3	S1	SOC
Mudpuppy	Necturus maculosus			G6	S2	

Definition of Abbreviations Used on Natural Heritage Resource Lists  
of the  
Virginia Department of Conservation and Recreation

**Natural Heritage Ranks**

The following ranks are used by the Virginia Department of Conservation and Recreation to set protection priorities for natural heritage resources. Natural Heritage Resources, or "NHRs", are rare plant and animal species, rare and exemplary natural communities, and significant geologic features. The primary criterion for making NHRs is the number of populations or occurrences, i.e. the number of known distinct localities. Also of great importance is the number of individuals in existence at each locality or, if a highly mobile organism (e.g., sea turtles, many birds, and butterflies), the total number of individuals. Other considerations may include the quality of the occurrences, the number of protected occurrences, and threats. However, the emphasis remains on the number of populations or occurrences such that ranks will be an index of known biological rarity.

- S1** Extremely rare; usually 5 or fewer populations or occurrences in the state; or may be a few remaining individuals; often especially vulnerable to extirpation.
- S2** Very rare; usually between 5 and 20 populations or occurrences; or with many individuals in fewer occurrences; often susceptible to becoming extirpated.
- S3** Rare to uncommon; usually between 20 and 100 populations or occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.
- S4** Common; usually >100 populations or occurrences, but may be fewer with many large populations; may be restricted to only a portion of the state; usually not susceptible to immediate threats.
- S5** Very common; demonstrably secure under present conditions.
- SA** Accidental in the state.
- SB** Breeding status of an organism within the state.
- SH** Historically known from the state, but not verified for an extended period, usually > 15 years; this rank is used primarily when inventory has been attempted recently.
- SN** Non-breeding status within the state. Usually applied to winter resident species.
- SU** Status uncertain, often because of low search effort or cryptic nature of the element.
- SX** Apparently extirpated from the state.
- SZ** Long distance migrant whose occurrences during migration are too irregular, transitory and/or dispersed to be reliably identified, mapped and protected.

Global ranks are similar, but refer to a species' rarity throughout its total range. Global ranks are denoted with a "G" followed by a character. Note that GA and GN are not used and GX means apparently extinct. A "Q" in a rank indicates that a taxonomic question concerning that species exists. Ranks for subspecies are denoted with a "T". The global and state ranks combined (e.g. G2/S1) give an instant grasp of a species' known rarity.

These ranks should not be interpreted as legal designations.

**Federal Legal Status**

The Division of Natural Heritage uses the standard abbreviations for Federal endangerment developed by the U.S. Fish and Wildlife Service, Division of Endangered Species and Habitat Conservation.

- LE** Listed Endangered - threatened with extinction throughout all or a significant portion of its range
- LT** Listed Threatened - likely to become endangered in the foreseeable future
- PE** Proposed Endangered **R(S/A)** Treat as endangered because of similarity of appearance
- PT** Proposed Threatened **T(S/A)** Treat as threatened because of similarity of appearance
- C** Candidate - enough information is available to propose for listing, but listing is precluded by other pending proposals of higher priority
- SOC** Species of Concern - species that merit special concern (not a regulatory category)
- NP** No federal legal status

**State Legal Status**

The Division of Natural Heritage uses similar abbreviations for State endangerment.

- LE** Listed Endangered **PE** Proposed Endangered
- LT** Listed Threatened **PT** Proposed Threatened
- C** Candidate
- SC** Special Concern - animals that merit special concern according to VDGIF (not a regulatory category)
- NS** No state legal status

---

Definition of Abbreviations Used on Natural Heritage Resource Lists  
of the  
Virginia Department of Conservation and Recreation

Conservation Site Ranks

Rank is a rating of the significance of the conservation site based on presence and number of natural heritage resources; on a scale of 1-5, 1 being most significant:

- B1 - Outstanding significance
- B2 - Very high significance
- B3 - High significance
- B4 - Moderate significance
- B5 - of General Biodiversity significance

For information on the laws pertaining to threatened or endangered species, contact:

U.S. Fish and Wildlife Service for all FEDERALLY listed species  
Department of Agriculture and Consumer Services Plant Protection Bureau for STATE listed plants and insects  
Department of Game and Inland Fisheries for all other STATE listed animals

Literature Cited

Stein, B.A., L. S. Kuther and J.S. Adams. 2000. Precious Heritage: The Status of Biodiversity in the United States. Oxford University Press. Pp. 173 & 190-191.



## COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.  
Secretary of Natural Resources

### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street Address: 355 Deadmore Street, Abingdon, Virginia 24210  
Mailing Address: P.O. Box 1688, Abingdon, Virginia 24212-1688  
Fax: (276) 676-4899  
www.deq.state.va.us

Robert G. Burnley  
Director

Michael D. Overstreet  
Regional Director  
(276) 676-4300

July 7, 2003

Mr. Charles H. Ellis III  
Department of Environmental Quality  
Office of Environmental Impact Review  
629 East Main Street, Sixth Floor  
Richmond, VA 23219

Re: EPA Mountaintop Mining/Valley Fills in Appalachia Environmental Impact Review

Dear Mr. Ellis:

The Department of Environmental Quality (DEQ) Southwest Regional Office received the subject CD on June 17, 2003. The Southwest Regional Office is responsible for implementing regulatory air, water and waste programs in thirteen of Virginia's southwestern most counties. Of these thirteen counties, Lee, Wise, Buchanan, Dickenson, Tazewell and portions of Scott and Russell Counties are located in the Virginia portion of Appalachia where coal mining takes place.

The Norfolk District of Corps of Engineers, regulates coal mining activities mainly through the Nationwide Permit Number 21 (NWP 21) for Surface Coal Mining. Virginia DEQ does not issue separate Virginia Water Protection Permits for coal mining activities that qualify for the NWP 21. By mutual agreement, projects that exceed thresholds for NWP 21, are permitted under the Department of Mines, Minerals and Energy NPDES permit program using guidelines established in the Virginia Water Protection Program. This EIR discusses some issues that these programs work through with each Coal Permit application. With this background in mind, we would like to offer the following comments.

Table II.B-2 Distinctions Among MTM/VF EIS Alternatives, highlights the different focus of each of the permit programs and points to the changes that should be implemented so that a more straight forward review can be accomplished by all parties. For instance, SMCRA permit authorization should incorporate requirements for minimization and alternatives analysis for excess spoil disposal. Rule-making that is more consistent with the Clean Water Act Section 404(b)(1) guidelines would allow agencies to work together instead of trying to fulfill guidelines at cross-purposes. Development of advanced identification of disposal sites (ADID), watersheds

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generally unsuitable for fill, could encourage alternative valley fill solutions from the beginning of the project. Designation of ADID sites would give the permittee a better idea of the viability of a project before resources are committed. Another action is to continue rulemaking relative to the stream buffer zone rule and excess spoil disposal.

Other actions proposed by the alternatives are consistent with Virginia and Norfolk District Corps of Engineers discussions on how to protect the environment. Develop guidance policies or rule making for consistent definitions of stream characteristics as well as field methods for delineating those characteristics. Refine the uniform, science-based protocols for assessing ecological function, and refine and calibrate the stream assessment protocol to assess stream conditions and to determine mitigation requirements. Assess aquatic ecosystem restoration and mitigation methods. Develop guidelines identifying state of the science BMPs for selecting appropriate growth media, reclamation techniques, revegetation species, and success measurement techniques for post mining land uses involving trees.

In Chapter III, page 18 of 22, mitigation recommendations mirror those of Virginia programs. That is, "replacement of a mined for filled stream by restoration or creation of a similar type of stream would be more in keeping with this policy [in-kind compensatory mitigation] than would replacing stream systems with palustrine wetland systems." Recognition of the functional values of streams and that these values are not replaced by a wetland system is a critical component in valley fill projects.

Thank you for the opportunity to comment on this document. The studies and recommendations of this report should help to further both the science and policies in relation to mountaintop mining and valley fill projects.

Sincerely,

Allen J. Newman, P.E.  
Water Permit Manager

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1-3

12-1-5

12-1-4

If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

#### REVIEW INSTRUCTIONS:

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- Prepare your agency's comments in a form which would be acceptable for responding directly to a project proponent agency.
- Use your agency stationery or the space below for your comments. IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.

Please return your comments to:

MR. CHARLES H. ELLIS III  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL IMPACT REVIEW  
629 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
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Impact Review

CHARLES H. ELLIS III  
ENVIRONMENTAL PROGRAM PLANNER

#### COMMENTS

Statements in the project document concerning endangered species were reviewed and compared to available information. As required in the draft MTM/VF, the SMRCA regulatory authority will continue to consult with U.S. Fish and Wildlife Service and appropriate state agencies regarding federal- and state-listed endangered and threatened species. No additional comments are necessary in reference to endangered plant and insect species regarding this project.

(signed) Keith R. Tignor (date) August 13, 2003  
(title) Endangered Species Coordinator  
(agency) VDACS, Office of Plant and Pest Service

PROJECT # 03-106F

8/98

RLE-12-2003 14:21

DRINKING WATER

P.02/03

If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

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629 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
FAX #804/698-4319

CHARLES H. ELLIS III  
ENVIRONMENTAL PROGRAM PLANNER

#### COMMENTS

See attached.

(signed) Alan D. Weber (date) 8-12-03  
(title) \_\_\_\_\_  
(agency) VDH

PROJECT # 03-106F

8/98

AUG-12-2003 14:21

DRINKING WATER

P.03/03

Subject: Mountaintop Mining/Valley fills CD  
Date: Wed, 06 Aug 2003 11:08:36 -0400  
From: Mike Dishman <mdishman@vdh.state.va.us>  
To: Jerry Peaks <jpeaks@vdh.state.va.us>  
CC: "Puckett, Richard" <rpuckett@vdh.state.va.us>,  
"Henderson, Dean" <dhenderson@vdh.state.va.us>

You sent us a CD on the subject and asked us to comment. We have very few stream intakes that would even potentially be impacted: Pennington Gap, St. Paul, Wise County FSA, maybe Richlands. The other WTP sources are small mountain top reservoirs or large reservoirs like Pound Lake or Flannagan. Our comments are:

1. The report seems to propose VPDES permits for any valley fills. Our comment would be that ODW should review these applications for water supply impacts.

2. Mountaintop mining/valley fill proposed in a watershed within 5 miles of an intake should at least be announced to ODW and the waterworks owner. We assume that runoff ponds and silt fences will be required to contain runoff, in which case the streams should be adequately protected as far as water supply requirements go.

If you were looking for more, let me know.

Mike Dishman, P.E. <mdishman@vdh.state.va.us>  
Deputy Field Director  
Virginia Department of Health  
Office of Drinking Water

## Memorandum

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER DIVISION  
Larry G. Lawson, P.E., Director

RECEIVED  
AUG 08 2003

To: Charlie Ellis  
Environmental Program Planner  
From: Ellen Gilinsky, Ph. D, PWS  
VWP Permit Program Manager  
Date: August 7, 2003  
Subject: Mountaintop Mining/Valley Fill Draft EIS  
EPA  
Project Number 03-106F

Mountaintop mining considers all types of surface coal mining (mountaintop removal, contour, area, etc.) in the steep terrain of the central Appalachian coalfields. Removal of overburden and interburden (rock above and between coal seams, respectively) during mountaintop mining / valley fills (MTM/VF) operations results in generation of excess spoil, because the broken rock will not all fit back into the mining pit. The excess spoil must be placed in disposal sites adjacent to the mining pits in order to allow for efficient and economical coal extraction. Typical locations for excess spoil disposal sites are valleys, also known as heads-of-hollows or uppermost (headwater) stream reaches. The usual method of disposing of this excess spoil is to place it in engineered earthen and rock structures known as excess spoil disposal areas or colloquially known as head-of-hollow fills, hollow fills or valley fills.

The U.S. Army Corps of Engineers (COE) and the U.S. Environmental Protection Agency (EPA) share responsibility for implementing different portions of the Clean Water Act (CWA). The COE has the principal authority to regulate the placement of fills into waters of the U.S. under CWA Section 404 while EPA maintains oversight authority. The EPA Office of Surface Mining (OSM) is responsible for the national administration of the Surface Mining Control and Reclamation Act (SMCRA), and has delegated this authority to states in the EIS study area except Tennessee. Delegation of SMCRA authority occurs when states assume primacy for regulating surface coal mining and reclamation by adopting statutes and regulations no less effective than the Federal counterparts.

The COE, EPA, and the OSM propose to establish an integrated surface coal mining regulatory program in steep slope Appalachia. The objective of the coordinated program improvements considered by this EIS is consistent application of the CWA and the SMCRA to improve the regulatory process and effect better environmental protection for MTM/VF operations. To effect this integrated regulatory program, the COE, EPA, and OSM would amend their policies, guidance, procedures, or regulations as necessary. These amendments would result in MTM/VF operations that avoid, minimize, or mitigate, to the maximum extent practicable, significant adverse impacts to the waters of the U.S. and prevent material damage to water resources outside the permit area; would streamline the permitting process; and would coordinate the agencies'

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If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

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- C. Use your agency stationery or the space below for your comments. IF YOU USE THE SPACE BELOW, THE FORM MUST BE SIGNED AND DATED.

Please return your comments to:

MR. CHARLES H. ELLIS III  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL IMPACT REVIEW  
629 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
FAX #804/698-4319

*Charles H. Ellis III*  
CHARLES H. ELLIS III  
ENVIRONMENTAL PROGRAM PLANNER

## COMMENTS

Please be advised that the Marine Resources Commission, pursuant to Section 28.2-1280 et seq. of the Code of Virginia, has jurisdiction over any encroachments in, on, or over the beds of the bays, ocean, rivers, streams, or creeks which are the property of the Commonwealth. Accordingly, if any portion of the subject project involves any encroachments channelward of ordinary high water along natural rivers and streams, a permit may be required from our agency. Thank you for the opportunity to comment.

(signed) *Rud D. C.* (date) 7-24-03  
(title) ENVIRONMENTAL ENGINEER  
(agency) VMRC

PROJECT # 03-106F

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Impact Review

*Charles H. Ellis III*  
CHARLES H. ELLIS III  
ENVIRONMENTAL PROGRAM PLANNER

## COMMENTS

I have reviewed the draft EIS. While I have no substantive comments to offer, at the same time I have no objections to Alternative 2, the preferred alternative.

(signed) *[Signature]* (date) July 18, 2003  
(title) County Administrator  
(agency) Wise County

PROJECT # 03-106F

8/98

FAX

DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL IMPACT REVIEW

TO: William Caudill FROM: Charlie Ellis  
Office: Buchanan County Dept. of Environmental Quality  
Office of Environmental Impact  
FAX: (276) 935-4479 Review  
529 East Main Street, 5th Floor  
Richmond, VA 23219  
RE: Comments on EIS Review Telephone (804) 698-4488  
DATE: August 12, 2003 FAX NUMBER: 804/698-4319

TOTAL # OF PAGES INCLUDING COVER: 1

COMMENTS:

Mr. Caudill - I need your comments, if any, on the CD version of the Draft Programmatic Environmental Impact Statement on Mountaintop Mining and Valley Fills in Appalachia (DEQ-03-106F). Thank you.

*CHE*  
Charlie Ellis

8-12-03 IF YOU DO NOT RECEIVE ALL PAGES, PLEASE NOTIFY THE SENDER

To: Mr. Ellis

From: W.J. Caudill

Dear Sir:

I have no comments on the Draft Programmatic Environmental Impact Statement on Mountaintop Mining and Valley fills in Appalachia.

PAGE 1

FAX: 1540 935 4479

AND-11-03 MON 11:11 PM W J CAUDILL

If you cannot meet the deadline, please notify CHARLIE ELLIS at 804/698-4488 prior to the date given. Arrangements will be made to extend the date for your review if possible. An agency will not be considered to have reviewed a document if no comments are received (or contact is made) within the period specified.

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529 EAST MAIN STREET, SIXTH FLOOR  
RICHMOND, VA 23219  
FAX #804/698-4319

*Charles H. Ellis III*  
CHARLES H. ELLIS III  
ENVIRONMENTAL PROGRAM PLANNER

COMMENTS

*None*

(signed) D. D. D. (date) 8/11/03  
(title) County Administrator  
(agency) Bee County

PROJECT # 03-106F

8/98

## Department of Mines, Minerals and Energy Comments on Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement

The Department of Mines, Minerals and Energy (DMME) offers the following comments on the Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement (EIS). DMME finds that the draft EIS report regularly reflects use of incomplete or inaccurate data. This raises considerable credibility problems with any conclusions drawn from this information. Correcting these problems would take years and substantial budgets. DMME believes the public health and safety will be better protected if the draft programmatic EIS process is ended at this stage and a true no-action alternative is selected. This option would have the existing SMCRA, EPA, and COE programs regulate coal-mining operations as they currently do. This option recognizes that there has been considerable change in the regulatory programs since this EIS process was started that are sufficient to address the problems that lead to the programmatic EIS.

This differs from the No Action alternative described in the report that proposes actions that differ from the current regulatory practice. For example, current practice does not require SMCRA or EPA programmatic decisions to defer to COE 404 decisions. A true no-action alternative would allow the three regulatory programs to coordinate actions and not set up a single lead program.

DMME also has reviewed the draft EIS and offers the following specific comments.

### Executive Summary General Comment

The authors present this as a Mountaintop Mining/Valley Fill EIS. It should be noted upfront that it addresses much more than mountaintop mining and valley fills. For example, since the EIS began the U.S. Army Corps of Engineers (COE) has revised its procedures and now does not distinguish between fill and backfill. Any recommendations adopted as a result of the EIS would apply to any mining, backfilling and filling operations anywhere in the United States. Since the COE also does not distinguish between coal mining fill operations and other types of fills, any changes to the federal rules implemented as a result of this EIS would also apply to non-mining activities such as infrastructure construction activities, highway construction, etc.

### Technical Studies

In the list of technical study conclusions, 7<sup>th</sup> bullet, page ES-4, the EIS concludes that wetlands created by mining are not generally of high quality. No technical studies were done in Virginia to review these types of wetlands. The EPA and COE dismiss these wetlands out of hand as being non-jurisdictional. The EIS fails to note that in Virginia, isolated wetlands are regulated and protected under state law § 62.1-44.15:5 unless they are determined to be a small isolated wetland of minimal ecological value. Therefore, conclusions in the EIS that are based on the assumption that the wetlands would not be regulated in Virginia are unfounded.

In the list of technical study conclusions, last bullet, page ES-4, the phrase "The extraction of coal reserves in the study area could be substantially impacted if fills are restricted to small watersheds" should be changed to "would be substantially impacted". The EIS Mountaintop Technical Team reviewed plans on 11 sites and concluded that there would be a 90.9% reduction in mineable coal.

The above mentioned plan review is the only actual site-specific study in the EIS. Additionally, the Phase I and II, Economic Studies are seriously flawed models as discussed at the October 17, 2002 EIS Economic Meeting in Charleston, WV. Therefore, many parts of this draft EIS are not supported by accurate, fact-based studies. Conclusions drawn in the EIS, and any actions taken in response to these conclusions, may be considered arbitrary and capricious. Any actions taken as a result of this EIS would need to be justified by separate, accurate, fact-based studies and not rely on the information in the draft EIS.

### Environmental and Process Benefits

On page ES-8, the No Action Alternative, as well as elsewhere in the EIS, is inaccurately characterized. A true No Action Alternative presents no changes. This is not the case with coal mining regulation. Since 1998 the SMCRA, EPA and COE programs (particularly the COE's requirements) have been changing and continue to change. For example, the COE has informed the Virginia DMME that it intends to develop standard operating procedures to try to achieve some consistency between COE districts. In addition in Virginia the COE and the Nature Conservancy are developing an MOU for an In-Lieu Fee Program for mitigation of stream impact. West Virginia has implemented new state specific laws and regulations that change mining rules in West Virginia but not in other states in the study area. As such it is impossible for the EIS to accurately describe the first option as a No Action Alternative. This option should be recharacterized as an option that would continue the existing SMCRA, EPA, and COE regulatory programs, including past and ongoing amendments to the processes.

1<sup>st</sup> full paragraph, page ES-9, the reference to the 250-acre limit in West Virginia states that use of the 250-acre limit has reduced the number of valley fills. This statement fails to note that restricting fills to watersheds less than 250 acres resulted in numerous instances of many more fills being proposed in order to stay below the 250-acre threshold. Instead of 3 or 4 large fills a dozen or more smaller fills were proposed. The implication that the 250-acre limit helped reduce the number of fills cannot be supported.

In the next to last paragraph, page ES-10, the EIS states that an MOA would be developed under Alternatives 1, 2 and 3. The EIS does not discuss the difficulty in establishing and implementing such an MOA. It has been the experience of Virginia DMME that obtaining such an MOA is very difficult.

- Approximately three years ago, DMME approached the Norfolk District COE about developing an MOA. The COE declined to enter into discussions on development of an MOA.
- DMME tried unsuccessfully to enter into an MOA with the Virginia Field Office of the U.S. Fish and Wildlife Service (USFWS). The USFWS tried to make all DMME

permitting actions federal undertakings through language in the MOA. This would have lead to a USFWS takeover the state's role in permits involving T&E species on mine sites. When the USFWS was unable to get DMME to agree to this approach they declined to continue working on an MOA.

- The 1996 "Formal Section 7 Biological Opinion and Conference Report on Surface Coal Mining and Reclamation Operations Under the Surface Mining Control and Reclamation Act of 1977" spells out the process to be used for consultation between state SMCRA agencies such as DMME and USFWS. USFWS staff in Virginia do not follow its guidance.

Until the federal agencies show acceptance of existing agreements and flexibility in drafting new agreements that will meet the needs of all parties, the MOA approach is likely to fail and any alternative relying on use of MOAs is questionable.

#### Actions and Alternatives

In the list of cooperative efforts by the "federal and/or state agencies", 5<sup>th</sup> bullet, page ES-7, the COE is currently requiring post mitigation monitoring for a period of five years. Under SMCRA areas that are reminded are eligible for bond release after two years. The two-year liability period was put into place as an incentive for remining and reclaiming abandoned mined lands (AML). To require all SMCRA permits to implement the five year monitoring and liability period would be counter productive. EPA has documentation that remining and reclaiming AML areas will improve water quality. Any cooperative effort between the agencies should give deference to remining activities as required by the 1992 Energy Policy Act and the Rahall Amendment to the Clean Water Act, and not uniformly incorporate existing COE standards across the whole SMCRA program.

In the list of "OSM and/or state SMCRA regulatory authorities" efforts, 4<sup>th</sup> bullet, page ES-8, the EIS proposes "if legislative authority is established by Congress or the states, require reclamation with trees as the postmining landuse." The EIS steering committee was advised several times that this is not feasible. Due to multiple mineral and surface ownership issues, and the fact that many permit applicants do not own the surface but rather have a non exclusive right of entry to mine the coal and reclaim the area. The control over the type of vegetation to be replaced will remain primarily with the surface landowner. The EIS is not authorized to intrude into private ownership rights as suggested here. While in Virginia over 85% of mined land is reclaimed to forested use, some Virginia landowners wish to have hayland and pasture as a postmining land use. These sites are actively managed by the landowners and are productive hayland pastures. This recommendation should be removed from the EIS.

#### Chapter I – Purpose and Need

##### I.A Introduction

On Page I-1, the EIS goes beyond the true definition of "mountaintop mining". The EIS defines the term "mountaintop" as the "summit of the mountain". In reality, the draft EIS addresses all area from the valley floor to the summit. ("Surface coal mining occurring on mountaintops, ridges, and other steep slopes..."). The use of the term "mountaintop mining" in the draft EIS should be changed to reflect the broad effect of actions proposed in the draft EIS.

The EIS classifies fills as "valley fills", ignoring the existence of other types of fills such as bench fills and side hill fills. (See also note I. E. – where excess spoil fills, otherwise known as valley fills" - and I. F, 1 on page I-5 – chronology may be misleading if reference to valley fills is also encompassing other types of excess spoil disposal areas.) The EIS should accurately characterize the types of fills it is addressing. Without this characterization, any requirements implemented as a result of this EIS could adversely affect the use of these other types of fills. For example, there are significant environmental benefits from utilizing pre-existing benches for the placement of excess soil - eliminating miles of pre-Act abandoned highwalls.

The EIS was initiated and developed by the federal agencies in partnership with West Virginia. West Virginia was a signatory to the Settlement Agreement; the other primary states were not. The Introduction section should recognize that the other Appalachian states were not formal parties to this EIS and that the recommendations in the EIS may not be appropriate in these other states.

#### LB Proposed Action and LC Purpose of the EIS

The EIS recommends the OSM, EPA and COE establish a uniform federal mandate in the Appalachian coalfields. This was developed primarily on conditions in West Virginia. The EIS does not recognize the unique differences in the types of coal mining operations in Virginia (and other Appalachian states) as compared to conditions in West Virginia. If the EIS process is continued, the EIS should be revised to reflect the differing conditions among the Appalachian states.

#### LD Need for Proposed Action

On page I-3 the opening paragraph states that impacts in the study area are at least as significant as impacts in other areas, and that the measures to address the impacts in the study area would be adequate for other areas. This one-size-fits-all approach does not recognize that the impacts from coal mining are significantly less in some areas and that the proposed measures in the draft EIS are greater than is needed in these areas.

On page I-8, the draft EIS discusses the Bragg 1998 Settlement. This settlement agreement was signed by the federal agencies and West Virginia relative to MTM/VF. However, Virginia and other primary states in the Appalachian coalfields were not signatories to such and are not bound by the terms and conditions of the agreement. This EIS assumes that the federal agencies, via oversight, would compel other state compliance as a condition of maintaining their regulatory programs. (Note Page I-9 – "to aid in the objective of increased scrutiny of permits.") The federal agencies should not unilaterally implement a voluntary consent agreement in non-signatory states. The draft EIS should not assume that the processes agreed to in the consent agreement are needed in the other states or would be done.

The 2000-2003 Chronology –states that, "Following the permitting changes instituted pursuant to the Bragg settlement agreement and other unrelated factors, the average number of fills/year approved in the EIS study area declined...." The EIS did not note that the decline was due in part to the COE's moratorium on issuing 404 or NWP 21 permits - which resulted in a tremendous backlog of permit applications in West Virginia & thus less fill approvals. Any assumption that the permitting changes instituted pursuant to the Bragg settlement agreement has

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a positive effect on the number of approved fills per year may not be supported by the actual conditions in the West Virginia regulatory program.

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## **Chapter II**

### **Summary of Alternatives**

The EIS process should be ended at this point and the OSM, EPA, and COE programs should be continued as they are in effect today. The action alternatives cannot be supported by the record in the draft EIS. Many of the studies used to develop the EIS are flawed. Conclusions are based on either incorrect or limited data. It would be prohibitively expensive and timely to fix these problems sufficiently to support any action alternative. If the EIS process is not stopped, then the federal agencies should adopt Alternative 3. This would recognize the unique expertise of SMCRA agencies in evaluating the effects of mining operations on the environment, and lead to a more efficient and effective outcome than the other alternatives.

1-4

There are some specific problems with items in Chapter II as outlined below.

On page II.B- in section 3a, there is a regulatory process benefits discussion concerning a joint application form. The EIS concludes that use of common data elements in a joint application form could result in more efficient analytical approaches among agencies. DMME is concerned about the administrative difficulty and costs of developing one joint application form. Different agencies use various software and data capture systems. All electronic permitting systems used by state and federal agencies would have to be compatible to achieve the intended results. This may cause major system modifications for some and use of new systems for others. The draft EIS does not account for the cost or effort needed to harmonize these systems. Such cost may negate the benefits of a consolidation effort.

12-2-4

On page II B-15 b, under Distinguishing Process Benefits, the EIS discusses use of a coordinated regulatory review. This would be efficient only as long as each agency completed reviews in a timely manner. For example, if federal agencies could not meet state regulatory review schedules, state regulatory agencies would be left with a backlog waiting for comments from other agencies. In Virginia, federal agencies have not been able to meet state processing guidelines. The EIS should account for the cost of this type of delay.

## **Chapter III**

### **Chapter III.C - Appalachian Aquatic Systems**

There are errors in grammar, spacing, and organization throughout the draft EIS. Chapter 3 Part C contains several. Generally, the report is fragmented and difficult to follow. Problems with the presentation of material in the EIS, including Chapter 3 Part C, bring into question the reliability of much of the information and conclusions in the report.

### **Chapter III.D - Impact Producing Factors to Headwater Streams from Mountaintop Mining**

Chapter III, Part D states that it has not been determined if drainage structures associated with mining can provide benefits that could offset aquatic impacts. However, study has shown that ponds do provide such benefits. A Virginia Tech graduate study titled Ecotoxicological Evaluation of Hollow Fill Drainages in Low Order Streams in the Appalachian Mountains of

6-6-4

Virginia and West Virginia by Timothy Merricks with Dr. Donald Cherry concludes that settling ponds input organic enrichment that enhance collector filterer populations, including benthic macroinvertebrates and *in situ* test clams.

6-6-4

Chapter III, Part D, page III.D contains the statement that further evaluation of stream chemistry and further investigation into the linkage between stream chemistry and stream biotic community structure and function are needed. Virginia's Department of Mines, Minerals, and Energy (DMME), through its contractor Map Tech, Inc, has completed two Total Maximum Daily Load (TMDLs) studies that utilize a regression analyses methodology to correlate stream water chemistry and biological health. The work shows linkages between general benthic health scores and a combination of chemical stressors, as well as a particular pollutant and a specific benthic metric.

5-5-5

### **Chapter III.E - Coal Mine Drainage from Surface Mining**

On page III.E-2 of part 2, the definition of Coal Mine Drainage (CMD) as drainage from surface mining that causes water quality problems is unusable. This definition could include drainage from most mined lands through out the study area. Yet Table III.E-1 (page III.E-7) indicates that only 10 CMD sites are identified for all of Kentucky and only 26 CMD sites are identified in Virginia. The Virginia number is from Virginia's AMD inventory and represents long-term pollution discharges. Also, the number of active permits shown in Virginia is incorrect. The 26 sites in Virginia represent all long-term pollution discharges in Virginia from active and non-active sites.

5-5-4

On page III.E-6 in the first paragraph of Part 2 (b), the narrative seems to use CMD and acid mine drainage (AMD) interchangeably. These terms are not interchangeable and should not be used as such.

The draft EIS indicates on page III.E-13 that Virginia is actively working with the EPA in pursuing a regulation change to the Clean Water Act (CWA) for discharges from coal reclaiming sites. Virginia is currently not pursuing a CWA regulation change. EPA promulgated the remaining rule January 23, 2002.

### **Chapter III.F - Appalachian Forest Communities**

Page III.F-12 characterizes reclaimed mined lands in the study area as, "... often limited in topographic relief, devoid of flowing water, and most commonly dominated by erosion-controlling, herbaceous communities". This characterization is not accurate for reclaimed mined lands in Southwest Virginia. Eighty-five percent of reclaimed mined lands in Virginia are returned to forests. Most reclaimed mined lands in Virginia are returned to the approximate original contour including re-establishing drainage patterns.

7-6-4

Many of the generalizations made about the study area do not or should not apply to Virginia's coalfields. It is clear that many of the referenced studies included in the Appendix and narrative in Chapter 3 do not include Virginia. It's unclear and, most readers/reviewers will probably be unsure, if Virginia's seven coalfield counties were part of the area actually studies for the EIS.

#### Chapter III.K.2 - Trends in Valley Fills

Page III.K-36, section d. Virginia Valley Fill Size Trends, the data for Virginia is misleading. During the period of 1998 to 2002, Virginia did not distinguish between backfill and excess spoil designations for multiple seam mining. Spoil placed above the lowest coal seam mined was deemed to be excess spoil if there was a valley fill at that location below the lowest coal seam mined. This resulted in an overstatement of the footprint of valley fills during that period. Beginning in 2002, only excess spoil placed below the lowest coal seam mined on steep slopes was determined to be valley fills as this is the actual definition of excess spoil. Spoil placed above the lowest coal seam mined is now defined as backfill. Therefore, the statements in this section that characterize the total and average valley fill acreage in Virginia are larger than actual, and should not be used.

13-3-4

#### Chapter III.L - Mine Feasibility Evaluation and Planning

##### General Considerations:

Page III.L-3 In section c, "Reclamation Bonding" the last full paragraph reads in part "Complete release of reclamation bonds on a given area typically requires five years after completion of reclamation." This section should also note that areas that are remined are eligible for bond release in two years.

12-2-4

#### Chapter III.M - Coal Distribution and Markets

Page III.M-7, the last paragraph appears to be inaccurate. Virginia has more than 52 mines and West Virginia certainly has more than 35. It is unclear if this is meant to be the number of surface mines or the combined total of surface and underground mines. In addition VA DMME is incorrectly cited as the source of the information on Kentucky mines or production. DMME did not provide this information.

11-8-4

#### Chapter III.P - Demographic Conditions

The descriptions of demographics, economic conditions, and historic & archaeological resources do not accurately portray Virginia's coalfields. Some statements could lead one to believe that the writers were not sure of the location of Virginia's coalfields. Examples include placing the Blue Ridge Parkway in Virginia's coalfields and using the Thunderbird Paleo-Indian site in Virginia's Shenandoah Valley as an example of local archaeological resources. The study identifies tourist attractions in Kentucky, West Virginia, and Pennsylvania, but says that none of the Virginia study area counties are tourism destinations. Many examples of tourist attractions equivalent to the ones identified for the other states exist within Virginia's coal counties - like state parks & national forests. The report's errors and failure to highlight known Virginia tourist attractions indicate that the writers were not familiar with the area. These errors add to the lack of credibility of the draft EIS.

10-2-4

#### Chapter III.Q - Economic Conditions

The socio-economic studies on community impacts do not adequately address the effects that loss of coal-mining jobs would have on communities in the Appalachian coalfields. The EIS should also look at past studies or perhaps do new studies on communities impacted by the loss of or significant reductions in mining. A classic example to study would be communities that were developed by mining companies such as Lynch, KY. When the U.S. Steel mining operation was sold to Arch, the community suffered significant impacts. It had previously been

11-9-2

supported almost entirely by the company, U.S. Steel, with even the basic infrastructure being maintained by the company. With the purchase by Arch the community had to start providing this support and maintenance itself.

When communities suffer near or complete loss of mining, a marked change in the demographics of the community eventually occurs. With the loss of the economic base that once supported the community, a loss of younger community members occurs as they leave to find employment in other areas. Eventually the community winds up with an unusually high number of vacant houses - people are unable to sell the houses since the real estate market usually plummets in these areas. The population of the community consists of a majority of elderly retired persons on fixed incomes. The tax base is impacted to such a degree that the community can no longer maintain the infrastructure required for a community, schools, water, sewer, etc. It often takes large infusions of grant money to keep the community intact; even then the demographics do not change. Dante and Trammel are two such communities in Virginia and it is certain that there are many in West Virginia in the same position.

The EIS should address the impact any decrease in mining would have on the federal Abandoned Mined Land (AML) program and the UMWA Combined Benefit Funds when looking at the potential loss of mining as the result of the EIS alternative. The AML fund receives its revenue from the coal mined by companies, currently at a rate of \$ 0.35/ton for surface mined coal. The AML fund is used in part to fund water projects to communities whose water supplies were previously impacted from AML mining. States can use up to 30% of their AML allocation to fund these water projects. Virginia funds two water projects a year from the AML grant. The socio-economic impacts of the loss of all or part of this community water project funding must be considered. The UMWA Combined Benefit Fund receives significant funding from the AML trust fund to make up short falls from company contributions. Reductions in AML fees paid, as the result of restricting mining must be considered. The socio-economic impact of the impact to the UMWA Combined Benefit Fund must be considered. When considering this impact it must be recognized that many if not most of these pensioners live in the communities discussed in the previous paragraphs.

11-9-2

The EIS should consider that significant reductions or loss of the AML fees would also have a significant impact on future land reclamation. State AML programs fund land reclamation construction projects that protect the public health and safety. The socio-economic impact of not having funding to address public safety and health hazards to coal field residents should be addressed.

States are depending upon remining operations to be part of the TMDL implementation plans in the coalfield areas. AML programs lack sufficient funds to reclaim low priority environmental problems (environmental problems are not high priority projects under the AML program) such as what would be included in TMDL implementation plans. Some states also have received approval to use up to 10% of their AML funding on AML acid mine drainage (AMD) projects. This AMD corrective activity would be impacted with the loss of funding from the AML program.

These socio-economic impacts to coal field residents from reductions in coal mining must be considered in the EIS.

#### Chapter III.V – Relationship of Surface Mining and Air Quality

The draft EIS states that Black Lung is a condition prevalent in coal mine workers who have worked in underground coal mines for a period of eight years or longer. The report includes six pages discussing the impacts of black lung on the residents of the study area. This information has little to do with the consequences of MTM/VF, other than if coal mining shifts from surface mining to underground mining. This irrelevant information should be deleted from the report.

15-2-4

#### Chapter IV

##### Environmental Consequences

The last paragraph on Page IV.A-3 is misleading to the reader. The author of the document describes a condition of a mine site not having a post mining land use of forestry that may take hundreds of years to revert to forestry. There are sites that are reclaimed as hayland/pasture. The land usable for farming in the coalfield counties of southwestern Virginia is very small. Post mining land uses of hayland/pasture are welcomed and are used by landowners. The report should not imply that forestry is the only desirable use of reclaimed mine land.

19-3-4

The page IV.B-1 section titled Consequences Common to the No Action Alternatives and Alternatives 1, 2, and 3 should take into account the headwater streams that are replaced with diversion ditches and drainage systems in and around fills. In addition headwater streams disrupted or severed by prior mining activities are often reconnected to lower stream reaches when the highwalls on abandoned mined land are removed and backfilled.

5-7-4

On page IV.B-4, the third paragraph discusses the potential release of toxic materials into the environment by mining operations. Studies in Virginia have not shown any toxic waters from valley fills. Also, water quality standards are monitored on a regular basis by DMLR inspection staff for compliance with water quality standards.

5-5-4

None of the stream studies referenced in this document were conducted in Virginia. Therefore, conclusions regarding streams may not be valid for Virginia.

Page IV.F-1 section Energy, Natural, or Depletable Resource Requirements fails to mention that one of the requirements of SMRCA is to maximize coal recovery. The EIS authors should recognize this statutory mandate when evaluating alternatives.

The language on page IV.G-3 gives readers the impression that mountain top mining is displacing local communities. There is no evidence of this in Virginia. In Virginia, people in these coal camps were leaving the area long before mountain top mining began to be practiced. The coal companies that constructed these camps have long since shut down and left these camps to deteriorate. With no sewer systems or public water systems, residents began leaving. With no jobs any longer available, children graduating from schools left the area for work. Mountain top mining did not create this condition. Additionally, any actions taken as a result of this EIS that restrict future mining would further harm local economies and hasten the decline of these communities. These consequences should be recognized in the EIS.

10-2-4

#### Appendix D – Aquatic

##### General Comment

Many of the studies cited do not address Virginia. Virginia conditions, both on the ground conditions and the effectiveness of Virginia's coal surface mining regulatory program, differ from West Virginia and Kentucky. Conclusions based on these studies may not be applicable in Virginia. Notes on specific studies follow.

6-6-2

##### A Review of Wetland Resources in the Steep Slope Terrain of West Virginia No Virginia study information included.

5-3-2

##### The Value of Headwater Streams: Results of a Workshop, State College, Pennsylvania, April 13, 1999

No Virginia study information included. It should be noted in the EIS that removing of AML areas would often reconnect headwater streams to lower reaches. These streams were originally disrupted by AML mining activities. The headwaters empty onto the AML bench, then flow down the bench, eventually flowing over the bench at a low point by passing the lower reach of the stream. By removing and backfilling the AML highwalls these streams can be re-connected.

6-6-2

##### A Survey of the Conditions of Streams in the Primary Region of Mountaintop Mining Valley Fill Coal Mining

Streams assessed during the study that contained residential development were the most impaired. Because several stressors, including mining activities and residential development could cause the observed impairments, no specific conclusions were reached. Although issues regarding conditions in sediment control ditches associated with fill construction are identified, very little useful data was provided to characterize conditions in those structures.

##### Kentucky Mountaintop Mining Benthic Macroinvertebrate Survey

The study has very limited usefulness because it was specific to only four Kentucky counties and samples were collected just a single time at twelve stream sites in May of 2000. The study's conclusions that mountain top mining and valley fill (MTM/VF) construction negatively impacts benthic health do not match similar study results from Virginia. See the research report "Ecotoxicological Evaluation of Hollow Fill Drainages in Low Order Streams in the Appalachian Mountains of Virginia and West Virginia" by Timothy Merricks with Dr. Donald Cherry. Also, the last paragraph of the study report indicates that the impacts to benthic health from MTM/VF activities relate to deforestation. Forest is the most common post-mining land use in Virginia. This differs from Kentucky reclamation practices and therefore the conclusions of this report do not seem applicable to Virginia.

6-4-2

##### Ecological Assessment of Streams in the Coal Mining Region of West Virginia Using Data Collected by the U. S. EPA and Environmental Consulting Firms

As with the Kentucky report, the study has limited usefulness because it was specific to West Virginia. Seasonal data was collected from five West Virginia watersheds. No Virginia study information was included. The study's conclusions that mountain top mining and valley fill (MTM/VF) construction negatively impacts benthic health do not necessarily match similar study results from Virginia and West Virginia. The research report "Ecotoxicological Evaluation

of Hollow Fill Drainages in Low Order Streams in the Appalachian Mountains of Virginia and West Virginia by Timothy Merricks with Dr. Donald Cherry do not support this conclusion.

**A Survey of the Water Quality of Streams in the Primary Region of Mountaintop/Valley Fill Coal Mining**

No Virginia study information included. The same five West Virginia watersheds were used for the chemical water quality survey as for the ecological survey.

5-5-2

**A Survey of Eight Major Aquatic Insect Orders Associated with Small Headwater Streams Subject to Valley Fills from Mountaintop Mining**

On page 3 of this study, no indication if any of the streams sampled had been adversely impacted by past mining, logging, or other activities.

6-4-4

**Flow Origin, Drainage Area, and Hydrologic Characteristics for Headwater Streams in the Mountaintop Coal-Mining Region of Southern West Virginia, 2000-01**

The areas in this report are limited to southern West Virginia. No Virginia information is included.

5-4-2

**Appendix E - Terrestrial**

**General Comment**

Regional experts were not used for these studies. Experts outside the study area were used. No studies were conducted in Virginia. Refer to Appendix G comment concerning the article by the Society of American Foresters. Handel's report has no mention of amount of trees being planted by landowners today. Handel also noted that the studies were short in duration. Conclusions should not be drawn when insufficient information is obtained to back the conclusions.

**Handel Terrestrial Report**

"Trees that were obvious parts of an implemented planting program (determined by plantation spacing and diameter at breast height) were not included in the counts, as these did not naturally arrive on the sites and are not part of any invasion process. Any offspring produced by planted individuals were included in the data, however. We were not interested in survival of the planted trees, as all planted species we encountered are either forestry created hybrids or non-native and in fact illegal to plant in many states. Data were entered on computer databases for further study." This statement in the Handel report is an example of the types of flawed information the EIS contains. Handel references a study by Karen Holl that concluded, "The research reviewed above showed plant communities on mine sites reclaimed within the past 30 years developed into ecosystems that resemble the native hardwood forests. Although all species in surrounding forests were not found on the mined sites, the reclaimed-mine forests are still very young relative to the native hardwood forests which had developed over much longer time periods. Research has shown that reclamation practices have a dramatic influence on the rate of forested ecosystem recovery on unmanaged reclaimed mine sites, and on their long-term productivity and economic value. Practices that encourage ecosystem recovery are compatible with and complementary to those that may be used to establish commercially viable, productive hardwood forests on reclaimed mine sites." Handel described the Holl paper as follows. "An in-press article by Holl (2002) shows the potential for reinvasion and recovery on reclaimed surface mined lands. It is extremely important to note that, like the Skousen article, her study was comprised of pre-law

7-5-2

sites dating back to 1962 reclamations. She does not report how many of the 15 sites were post-law (post 1977), but her three age classes for the mines are 1962-1967, 1972-1977, and 1980-1987. Also, the mines in that report are small ¼ hectare parcels, not comparable to the large mountaintop removal areas subject to this study. The Holl study sites, only 62.5 x 40m in size, examined areas very close to seed sources, within "5-50 m from unmined forests." When Virginia Tech was asked to respond to this assertion by Handel, DMME received the following reply. "Karen (Holl) did look at larger pre-law mines, but her actual study plots are what are being sized out here. He (Handel) should be nervous because he completely mis-represented her work after she talked with him about it and offered to assist him in the interpretation." The use of experts not familiar with the region leads to these type of mistakes. Handel presumes that all mines are of the scale of large mountaintop removal operations several thousand acres in size. That is not the case in Virginia.

7-5-2

**Edge Bird Populations**

No studies were conducted in Virginia where the typical permit size is smaller than sites used in the study. Therefore, the conclusions in the report may not be applicable to Virginia.

Page 2 of the study gives the reader the impression that all surface mines leaves huge tracts of grasslands. This is not true in Virginia. More than 85% of all mined land in Virginia is returned to forestland.

7-3-2

**Vertebrate Study**

This study focuses only on grasslands. The author of this report should note that not all reclaimed mine sites have a post mining land use of hayland/pasture (grasslands). No studies were conducted on mine sites in Virginia that have been reclaimed to forestry. Therefore, the conclusions may not be applicable to Virginia lands.

7-1-2

**Appendix G**

**Mountaintop EIS Technical Report**

On page 1 of the Executive Summary second paragraph states that 14 sites that were chosen for this study were all located in West Virginia. No sites in Virginia were part of this study.

On page 1 of the report under the heading of Methodology, the report indicates that there were differences between the sites chosen because of different geographic and geologic settings. There are also differences from the areas in Virginia as well. Virginia does not have the multiple coal seams available that allows for mining mountaintop removal operations like those in West Virginia.

11-8-2

Page 2 under the heading of Conclusion, it is noted that the lower end of the ephemeral stream are very high in the valley thus restricting the amount of fill that could be placed in the fill. According to Virginia estimates, approximately 70%-80% of area currently being mined is previously mined land. In these cases, the ephemeral stream has been buried or disrupted by being cut through by mining. This report does not take into account the impacts to stream from past mining.

#### Land Use Assessment

This is a West Virginia Study. No other states are mentioned as being included in this study area. Therefore the data and conclusions may not be appropriate to Virginia.

Table 7 on page 13, under the heading of Current Mining Permits Methods and Results, only lists land uses that could be easily identified. The report should include areas that have been reclaimed and post-mining land uses implemented. Also, table 4 does not include land uses such as residential, commercial or industrial.

The last paragraph on page 17 and the first paragraph on page 18 are either stated wrong or are misleading. State and Federal governments (SMCRA authority) do not have control over post-mining land uses. SMCRA authorities are charged with approval and monitoring implementation of the post-mining land use. SMRCRA authorities do not control landowner rights or local zoning requirements. Landowners and local zoning and planning agencies control what post-mining land use changes are selected. SMCRA only requires that the site has an equal or higher post-mining land use.

Page 31 paragraph 2 under Land Use Planning and Decision Making for Specific Mine Sites states that, "land use decision-making is generally focused on identifying site-specific rather than regional development potentials". This is not always the case. A regional development authority that actively considers regional development potential serves the Virginia coalfield region.

This EIS does not reflect the following facts listed in a publication on the Internet by the Society of American Foresters (<http://www.safnet.org/aboutforestry/facts.cfm>), reads:

- There are a total of 247 billion trees above 1" diameter in the US on all lands, according to the last forest inventory.
- The science of forestry was established in the United States at the turn of the century, at a time when vast areas of forests had been cut down with little thought of the future. Foresters have done a magnificent job in restoring America's forests. Our forests now grow nearly four times more wood each year than in 1920.
- There are 747 million acres of forestland in the United States, about 71% as much as there was in 1630.
- America's forests are owned by private individuals (54%), public agencies (37%), and private industries (9%).
- Each year about 1.4 billion tree seedlings are planted -- roughly four million a day -- more than making up for those that are harvested. If you include naturally regenerated trees the net growth exceeds the harvesting by 33% due to good forest management.
- The average American uses about 749 pounds of paper every year and 95% of the houses built are done so using wood. That means that the average person uses the equivalent of a 100-foot high, 16 inches in diameter tree each year for their wood and paper needs.
- Parks, wildlife refuges, and other preserves span 166 million acres of the nation's total land mass; and the National Wilderness Preservation System covers an additional 104 million acres -- a total of 270 million acres set aside for parks, refuges, or wilderness areas.
- The forest industry ranks among the top 10 employers in 40 of the 50 states.

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- About 45 percent of the paper consumed in the United States is recovered for recycling. Recycled paper, however, is not "pure" so it must contain some new wood fiber for strength.
- Three well-placed mature trees around a house can cut air-conditioning costs by 10-50 percent, while trees and other landscaping can increase property value by 5-10 percent.
- One mature tree absorbs approximately 13 pounds of carbon dioxide a year. For every ton of wood a forest grows, it removes 1.47 tons of carbon dioxide and replaces it with 1.07 tons of oxygen.
- Today, the United States has about the same amount of land covered by trees (or slightly less) as it did in 1907.
- Species such as whitetail deer, wild turkeys, and wood ducks were almost extinct at the turn of the century. Wildlife conservation and habitat enhancement has resulted in flourishing populations of these and other species we now take almost for granted. Now, foresters are working with other professionals to improve habitats and ensure survival of other wildlife species.
- Until the 1920s, forests were generally logged and abandoned. Now, across the country an average of 1.7 billion seedlings are planted annually. That translates into 6 seedlings planted for every tree harvested. In addition, billions of additional seedlings are regenerated naturally.

This information contradicts studies within the Draft EIS that deal with forestry and the extent of tree planting. The Draft EIS states that huge tracts of forestlands are being converted to grasslands. These conflicts should be reconciled in the EIS.

#### Phase I and II Economics Study

The Phase I study of potential reduction in mining from actions taken as a result of the EIS used a technically incorrect model based on West Virginia terrain. The results of this model were then used to project reductions into Virginia. The results of this projection were then used to project economic effects in Virginia. These economic projections should not be used as they are based on projections made from an inaccurate technical model.

Additionally, the January 2003 Hill and Associates report, page 1, states that coal from deep mines will grow and make up the lost tonnage because of valley fill restrictions. Deep mining will not replace coal that cannot be mined under this proposed EIS. Any restrictions developed as a result of this EIS will affect deep mines as well as surface mines. It would be as difficult to permit new slurry impoundments or existing slurry impoundments expansions as it would be to permit new surface mines. The EIS recommendations will apply equally to these structures as they would to valley fills. The EIS should account for this impact.

#### Appendix H

##### General Comment

These studies are not necessarily representative of conditions on Virginia. Almost all surface mining in Virginia involves re-mining in some way. This typically takes the form of AML highwalls being second cut and AML highwalls backfilled with excess spoil. Some permits have no valley fills as 100% of the spoil can be disposed of on AML benches. No studies have been done for the EIS to document these issues in Virginia and as such the EIS cannot purport to represent conditions in Virginia.

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11-8-2

**Appendix K**

**Final Report of the Joint OSM Special Study on Drainage Control (Dec., 1999) – conducted in Kentucky**

Report findings – “no corroborating evidence to support allegation that surface mining operations had an adverse impact on the flooding potential for citizens and residences downstream, when DSMRE’s hydrologic policies and procedures were followed.” In Virginia no instances of mining related flooding other than from AML sites or blowouts from underground mines have been documented. While no Virginia sites are addressed in this study, DMME’s experience supports the findings from Kentucky.

17-1-2

**Comments on Mountaintop Mining/Valley Fills in Appalachia Draft Programmatic Environmental Impact Statement**

The Kentucky Environmental and Public Protection Cabinet (Cabinet) is the newly established agency with regulatory responsibilities for the program areas that are the subject of the Draft Mountaintop Mining/Valley Fills in Appalachia Programmatic Environmental Impact Statement. The Cabinet hereby requests that it be afforded an additional three (3) weeks to provide its comments. Those policymakers responsible for the provision of the comments were installed in the last two (2) weeks. They have not had the opportunity to review the issues due to the recency of their appointments and the reorganization of the agencies with programmatic responsibility and, therefore seek this extension of time.

3-5

# LaJuana Wilcher, Kentucky Environmental and Public Protection Cabinet



Ernie Fletcher  
Governor

LaJuana S. Wilcher  
Secretary

Commonwealth of Kentucky  
Environmental and Public Protection Cabinet  
Office of the Secretary  
Capital Plaza Tower  
Frankfort, Kentucky 40601

January 21, 2004

Mr. John Forren  
US EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

RE: Draft Programmatic Environmental Impact Statement

Dear Mr. Forren:

The Kentucky Environmental and Public Protection Cabinet (EPPC) welcomes the opportunity to submit comments on the Draft Programmatic Environmental Impact Statement (EIS) on mountaintop mining/valley fills prepared by the U.S. Army Corps of Engineers (COE), the U.S. Environmental Protection Agency, the U.S. Department of Interior's Office of Surface Mining and Fish and Wildlife Service and the West Virginia Department of Environmental Protection. EPPC is a new state agency created by executive order of Governor Ernie Fletcher entered on December 23, 2003, and is charged with responsibility for regulation of the environment and the protection of Kentucky's natural resources, among other things. EPPC's responsibilities include administration of state programs implementing the federal Clean Water Act (CWA) and the Surface Mining Control and Reclamation Act (SMCRA).

EPPC is aware that its predecessor agencies in Kentucky have participated in a very limited manner in the development of the draft EIS that is under consideration. The unfortunate result is that the draft EIS does not fully reflect Kentucky's experiences in the regulation of mountaintop removal and valley fill mining activities or their impact on Kentucky's environment. EPPC pledges its full cooperation and greater participation in the federal agencies' future efforts to address this important issue.

The Fletcher administration is committed to the development of Kentucky's abundant mineral resources while protecting the state's natural environment. It would be difficult to conceive of a situation where such a balance of interests would be more appropriate than in the formulation of a workable approach to the regulation of mountaintop removal and valley fill mining activities. The viability of Kentucky's mining industry, an important part of our economic future, hinges upon the continued ability of the coal mining industry to conduct mining operations under reasonable regulatory constraints. On the other hand, Kentucky's

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Mr. John Forren  
January 21, 2004  
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environmental future hinges upon the ability of government to ensure that this activity is conducted in a manner that minimizes adverse environmental effects and protects our aquatic resources and critical ecosystems. As a result, the successful completion of the objectives of this draft EIS is a matter of highest priority to EPPC.

EPPC believes that federal and state agencies involved in the regulation of mountaintop mining/valley fills should seek to accomplish two goals: to coordinate and expedite the review of applications to conduct mining activities, and to minimize the number, size and impacts of valley fills. EPPC is of the opinion that several of the alternatives considered in the draft EIS have the potential, if properly implemented, to help accomplish those goals. Accordingly, EPPC has no objection to the federal agencies' recommended alternative but strongly encourages consideration of the specific suggestions set forth below.

- States should be encouraged to administer elements of the Section 404 permit program and adequate funding should be made available for implementation.

Many of the procedural delays in the issuance of CWA Section 404 permits for coal-related activities could be minimized if states were encouraged to administer elements of the program under state programmatic general permits. In order for states to undertake such obligations, it would be necessary for federal agencies to provide a source of funding for such activities. Such federally-funded state activity could play a major role in the expedited permit review procedures contemplated under Alternative 2 of the draft EIS.

- Clear and concise definitions and procedures should be developed and uniformly applied.

A recurring issue has been the definition utilized by the COE for the determination of its jurisdiction over headwater streams in applications for CWA Section 404 permits for coal-related activities. Kentucky is encompassed in four different COE districts and the jurisdictional definitions vary from district-to-district. The development and application of uniform definitions for all COE districts would eliminate uncertainty on the part of state water pollution control agencies and regulated entities. Additionally, this action would provide a standard point of reference for determinations as to jurisdictional waters and provide clear and consistent guidance as to the point in streams at which nationwide permits may be utilized and as to the point at which individual COE permits must be obtained.

- Conflict resolution procedures should be developed to resolve interagency disputes in a timely manner.

Federal and state agencies should establish effective procedures for the resolution of inter-agency conflicts that arise during the administration of the programs that govern coal-related activities. For example, such procedures would be an essential program element if the COE utilizes state programmatic general permits to encourage state assumption of part of the administrative burdens of the CWA Section 404 permit program for coal-related activities.

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Mr. John Forren  
January 21, 2004  
Page 3

- Procedures for rendering final determinations should be developed that accommodate state administration of elements of the Section 404 permit program.

Under the CWA Section 404 permit program disagreements between the COE and the Environmental Protection Agency are resolved by elevating the issue to the administrative heads of the two agencies for consideration with final resolution pursuant to CWA Section 404(c). Additional procedures for rendering final determinations should be developed to accommodate state administration of elements of the program pursuant to state programmatic general permits.

In addition to the comments outlined above, EPPC has identified a number of technical issues raised by the draft EIS that should be resolved prior to finalization of the document. These technical issues are discussed in the Technical Attachment to this letter.

EPPC respectfully requests your careful consideration of the comments set forth above.

Sincerely,

*Lafuana S. Wilcher*  
Lafuana S. Wilcher  
Secretary

Attachment

## TECHNICAL ATTACHMENT

### A. Economic impacts to coalfield communities

The socio-economic studies do not accurately address the effect the loss of coal-mining jobs would have on the Appalachian coalfield communities or the effect mining activities may have on the development of the tourism industry. The Kentucky coal industry directly and indirectly employs over 56,000 and is a \$3.15 billion industry (Kentucky Coal Council). Clearly, the coal industry has a dramatic influence on individual coal counties. Miners in Martin County represent nearly 30% of the workforce and over \$41 million in wages, representing over 48% of the total county wages with an additional \$1.8 million of coal severance taxes returned to the county. In Pike County, miners represented 15% of the workforce, with \$182 million paid in wages and \$3.3 million returned in coal severance taxes.

### B. The "No Action Alternative" is improperly characterized

The "No Action Alternative" should be revised to acknowledge the many changes that have occurred in SMCRA and COE regulatory programs since the EIS was started. Since 1998 the SMCRA, EPA and COE programs (particularly the SMCRA and COE requirements) have been, and continue, to change. For example, in 2000 the COE Louisville Regional office advised the Kentucky Department for Surface Mining Reclamation and Enforcement (DSMRE) that it would develop regional conditions for CWA 404 NWP 21 authorizations. Because of these COE conditions, the DSMRE began developing or modifying a number of policies relative to: the permitting and mitigation of stream impacts (RAM #134); the construction of durable rock fills (RAM #135); inspection requirements for fills (Directive 36 - Division of Field Services). In addition, the COE and the KY Division of Water (DOW) have entered into an agreement that provides for an In-Lieu Fee Program for mitigation of stream impact. If these revisions are not made, "No Action Alternative" should be modified to describe the regulatory programs, policies and coordination processes, as they existed in 1998.

### C. Remining/bond liability period

On page ES-7 (fifth item), the COE requires post mitigation monitoring for a period of five years. EPA has documented that "remining" of pre-SMCRA mined areas will improve water quality in associated watersheds. OSM and Kentucky have enacted statutes providing for a two-year liability period, in lieu of the normal five-year period, for remined areas in order to encourage these beneficial activities. The absolute five-year period required by the COE would constitute a disincentive to the industry to undertake mining operations in these areas that would otherwise be left in their present degraded condition.

### D. Definition of Mountaintop Mining

The draft EIS, Page I-1, extends beyond the true definition of "mountaintop mining". The draft EIS defines the term "mountaintop" as the "summit of the mountain".

However, the draft EIS is applicable to all types of surface coal mining (mountaintop removal, area, contour, etc.) in the steep terrain of the Appalachian coalfield. This would effectively include mining activity from the valley floor to the summit. ("Surface coal mining occurring on mountaintops, ridges, and other steep slopes..."). Thus the use of the term "mountaintop mining" in the draft EIS should be changed to properly recognize the broader impacts associated with the actions proposed in the draft EIS.

1-6

#### **E. Does not recognize different fill types**

The draft EIS portrays all excess spoil fills as "valley fills". However, there are several different types of fills, characterized by elevation in the hollow, location and geometric configuration. The common types of fills are:

1. Valley fills – these structures are located in the valley floor and they cover or are adjacent to intermittent or perennial streams and, therefore, have the potential to constitute the greatest impact to the environment.
2. Hollow fills and head-of-hollow fills – these structures are located at mid and upper elevations in the hollow and would primarily affect intermittent and ephemeral stream reaches.
3. Side hill fills – these structures are small fills located in the ephemeral reaches or sub-watersheds of intermittent streams.
4. Bench fills – these fills are confined to existing mine benches, left as a result of mining prior to the enactment of SMCRA. They normally affect only ephemeral portions of streams above the mine bench. These fills often result in the elimination of pre-SMCRA highwalls, therefore, reducing threats to the safety of the public and wildlife utilizing these areas.

13-3-2

Without the above characterization, the application of the conclusions of the draft EIS in a broad manner may unnecessarily affect the utilization of some types of fills which can provide a benefit to the public and the environment without the associated impacts of the more invasive true "valley fills".

#### **F. Recognizing the differences that exist from state to state**

The draft EIS recommends OSM, EPA and COE establish a uniform federal mandate regarding "mountaintop mining" and AOC requirements. This recommendation was based primarily on mining methods and topographical conditions existing in the state of West Virginia. However, mining methods and conditions often differ dramatically in Kentucky.

1-6

In West Virginia, there are greater elevation differentials from valley floors to uppermost coal seams, resulting in larger excess spoil disposal areas and much larger plateaus with AOC variances. These conditions are infrequent in Kentucky.

Permitted areas in West Virginia tend to be larger, in that the rights to potential mining areas are held by large mineral holding companies. In Kentucky, permits are smaller due to many private landowner parcels.

#### **G. Kentucky was not a signatory to the Settlement Agreement**

The draft EIS discusses the Bragg 1998 Settlement on page I-8. The four federal agencies and the West Virginia DEP signed the MTM/VF settlement agreement. However, Kentucky and other primacy states in the Appalachian coalfields were not signatories to the settlement agreement and are not bound by its terms and conditions. This draft EIS assumes that the federal agencies, via oversight, would compel other states to comply as a condition of maintaining their regulatory programs. (Note Page I-9 – "to aid in the objective of increased scrutiny of permits.") The federal agencies should not unilaterally implement a voluntary consent agreement in non-signatory states.

1-6

#### **H. Reduction in fills – as a result of regulatory uncertainty instead of improved coordination**

The 2000-2003 Chronology –states that, "Following the permitting changes instituted pursuant to the Bragg settlement agreement and other unrelated factors, the average number of fills/year approved in the EIS study area declined..." The draft EIS failed to recognize that the decline was due, in part, to the COE's moratorium on issuing 404 or NWP 21 permits. This hesitancy resulted in a tremendous backlog of permit applications in Corps' Huntington Regional office so fewer fill permits were approved. The portrayal that the permitting changes instituted pursuant to the Bragg settlement agreement has reduced the number of approved fills per year may be somewhat misleading.

13-2-4

#### **I. Aquatic Studies – do not accurately represent Kentucky streams**

Although Kentucky concurs with (and uses) the EPA aquatic sampling protocols performed in West Virginia and Kentucky stream studies, Kentucky sampling locations were inappropriate as they do not truly reflect "mined" watersheds and reference streams. Data collected for the mined watersheds included impacts from logging, agriculture, residences and public roads as the sampling locations were a considerable distance from the mining operations. Sampling locations immediately below (downstream) of a mined area would identify the true impacts of the mining activity. Sampling sites for reference reach streams were located in extremely remote and restricted areas far removed from other industrial/commercial and public impacts. Similarly, sampling locations for an unmined area should be located at higher elevations, upstream of any non-mining impacts. Therefore, the selection of these streams does not represent typical unmined/mined watersheds in Eastern Kentucky. The second stream study conducted targeted selected species in perennial streams ("permanent headwaters"). The majority of mining operations in Eastern Kentucky affect ephemeral portions of streams.

6-4-2

#### **J. Appalachian forest community – studies do not represent Kentucky streams Reforestation Initiatives**

Page III.F-12 of the draft EIS characterizes reclaimed mine lands in the study area as, "... often limited in topographic relief, devoid of flowing water, and most commonly

7-6-4

dominated by erosion-controlling, herbaceous communities". This characterization fails to recognize the efforts of Kentucky's Reforestation initiative (RAM # 124) and the accompanying long-term benefits. The DSMRE started promoting reforestation as the post mining land use of choice in 1997. In cooperation with the University of Kentucky, a number of research areas have been developed that are providing great insight to the potential forest communities that can be established in the eastern Kentucky coalfields if reclamation practices are modified. Though the revegetation standards don't compel the establishment of all the different native species in the forest, the coal industry is required to satisfy diversity by establishing a number of different tree, shrub and ground cover species. Further, the grading practices advocated by this agency for reforestation will provide for invasion and natural succession. The "Kentucky Reforestation Initiative" is highly regarded by other state and federal surface mining programs, and is the standard by which other states model their own reforestation programs.

7-6-4

#### K. Valley fill trends

The information contained in the valley fill trends indicates that a significant number of fills have been approved for construction in the eastern Kentucky coalfields. We believe that the data in this section is somewhat misleading. In part, this is due to the confusion over the intermittent stream definition and similar confusion over the stream buffer zone. As a result of limiting fills to upper stream reaches, a larger number of smaller fills have resulted. OSM records reveal that most of the fills in Kentucky are small. As of September 2000, 4421 fills have been permitted since 1985. These approved fills are located: 81% in watersheds < 75 acres; 14% in watersheds 76-250 acres; 5% in watersheds > 250 acres.

13-3-4

#### L. Maximizing coal recovery is a regulatory requirement

In the list of technical study conclusions, page ES-4, last bullet, the statement that "The extraction of coal reserves in the study area **could** be substantially impacted if fills are restricted to small watersheds" should be changed to "**would** be substantially impacted". The EIS Mountaintop Technical Team reviewed plans on 11 WV sites and concluded the reduction of available fill volume resulted in a significant reduction in the coal reserves recovered. The original plans for the 11 sites reviewed would have produced 186 million tons of coal. By restricting the fills to the ephemeral streams, the total recovery is 16.8 million tons. That would be a 90.9% reduction in mineable coal. If the West Virginia study were extrapolated to the Appalachian coalfield as a whole, similar reductions in resource recovery would be anticipated in eastern Kentucky. However, federal and state requirements (SMCRA Section 102(f) and (k); 405 KAR 16:010 Section 2) mandate the conduct of mining operations so as to maximize the utilization and conservation of coal reserves, while minimizing the impact of those operations. Kentucky has taken steps to promote this issue through our "Remining Initiative" (RAM # 129). This program supports the recovery of remaining coal reserves on old pre-SMCRA mine sites, and also provides for the proper reclamation of these areas after remining.

13-1-4

#### M. Postmining land use options/landowner participation

Page IV.A-3, the last paragraph is somewhat misleading. The author describes the condition of a mine site not having been reclaimed to a post mining land use of forestry, and explains that it may take hundreds of years to revert to forestry. There are many sites that are reclaimed to hay land/pasture in accordance with the desires of the landowners. Landowners who manage their property as hay land and pasture intentionally inhibit the natural succession and the development of a forest. The report improperly implies that forest is the only desirable PMLU for reclaimed mine land.

19-3-4



REC'D OCT 23 2003

**COMMONWEALTH of VIRGINIA**

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

W. Tayloe Murphy, Jr.  
Secretary of Natural Resources

Kathleen S. Kilpatrick  
Director

Tel: (804) 367-2828  
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October 20, 2003

Mr. John Forren  
US EPA (3EA30)  
1650 Arch Street  
Philadelphia, PA 19103

Re: Draft Programmatic Environmental Impact Statement  
DHR File # 2003-0789

Dear Mr. Forren:

We have received materials for review of the above referenced project. It is our understanding that the Army Corps of Engineers, the US Environmental Protection Agency, the Office of Surface Mining, the US Fish and Wildlife Service, and the West Virginia Department of Environmental Protection are preparing this document to assist in minimizing the adverse environmental effects of mountaintop mining in Appalachia.

As stated in Section III.S-1, Section 106 of the National Historic Preservation Act of 1966, as amended, requires federal agencies to consider the effects of their undertakings upon historic and prehistoric resources. An undertaking is defined as "...any project, activity or program funded in whole or in part under either the direct or indirect jurisdiction of a Federal agency" (36CFR800.16(y)). 36 CFR 800, the regulations under which Section 106 review is implemented, requires that the review process be completed prior to issuance of said funding, permits or licenses. We recommend that this action be initiated as early as possible in the planning process so that our office may best assist you in identifying and addressing potential impacts to these resources. We ask that, prior to initiating consultation with our office, the Federal agency or it's designated contractor perform a search of our archives to identify historic and prehistoric resources that may be affected by the project. For more information on this process please access our website at <http://state.vipnet.org/dhr/review>.

Regarding statements made in Section IV.G-2, coordination with the SHPO should be approached from a procedural standpoint, rather than from the assumption that consultation will result in a determination of adverse effect and a single form of mitigation. It is the

Mr. John Forren  
Mountaintop Mining Draft EIS  
October 20, 2003  
Page 2

agency's responsibility to work with the SHPO to not only identify the scope of the project and any known cultural resources or resource potential within that scope, but to evaluate alternatives that may assist in avoiding adverse affects to significant cultural resources (36CFR800.6). Mitigation is the approach taken when other options have been determined infeasible.

We look forward to working with the above referenced agencies both in completion of this useful document and in review of applicable projects in the future. If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 140.

Sincerely,

Joanna Wilson, Archaeologist  
Office of Review and Compliance

10-2-1

10-2-1

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# **Organizations**



## MOUNTAIN REDBIRD MUSIC

August 11, 2003

Mr. John Forren  
US EPA  
1650 Arch Street  
Philadelphia, PA 19130

Dear Mr. Forren:

I am writing to you to voice my strong belief that Mountaintop Removal should be stopped.

Mountaintop Removal is destroying the "skyline" of America. The magnificent Appalachian Mountains that reach to the sky are among the world's oldest mountains, and we are allowing them to be destroyed.


Along with the leveling of our majestic natural skyline, streams are being destroyed and drinking water is being contaminated. The blasting is damaging the surrounding homes, causing air pollution, destroying hardwood forests and wildlife habitats.

Mountaintop Removal defies the Executive Order regarding Environmental Justice for low-income people.

There is nothing good about it. No good comes of it. Please stop it.

I am taking my 12-year-old son next week on a trip from our home in Brooklyn, New York, to see the beautiful Appalachian Mountains. I am saddened by the thought that the possibility exists that when he is a parent he will not be able to do the same for his children.

Yours truly,



TINA ARIDAS  
MOUNTAIN REDBIRD MUSIC  
565 9<sup>TH</sup> STREET @ BROOKLYN, NY 11215  
718-965-8490 @ 917-514-5364 @ TINA@JAMESREAMS.COM  
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AUG 18 2003 -- REC'D

### *If There Were Nothing To Mine*

by T.Aridas/J.Reams, BMI ©2002 Mountain Redbird Music  
718-965-8490 info@jamesreams.com

They tunneled deep into the hills of my county  
The mules and the ponies went blind underground  
The men and the boys got sick from the coal dust  
A deadly affliction for pennies a pound

If God had not put coal in these mountains  
If there had been nothing but rock, dirt and trees  
My Daddy'd be walking these hills in the springtime  
Not living a hard death of black lung disease

Now dynamite blasts off the tops of these mountains  
And big machines carve out the coal from the seams  
They flatten the hills and fill up the valleys  
And turn into black pools God's pure mountain streams

If God had not put coal in these mountains  
If He had blessed them with nothing to mine  
The hilltops would offer their green domes to Heaven  
Crowned with pink rosebay and blackberry vines

The strip mines that take off the tops of these mountains  
Leave scars that won't heal and make God turn his eyes  
They level the hilltops that once reached toward Heaven  
A mighty green skyline now humble in size

As God looks down at coal mining counties  
At what has been done to this blessed land  
I wonder if He ever wishes He never  
Put coal in these mountains and gave them to man

1-9

10-7-2



*Tennessee Chapter*

Sierra Club – Water Sentinels Program

P.O. Box 111094, Memphis, TN 38111

January 3, 2004

Mr. John Forren  
U.S. EPA (3EA30), 1650 Arch Street  
Philadelphia, PA 19103

RE: Draft Programmatic Environmental Impact Statement (DEIS) on Mountain Top Mining-Valley Fill (MTM-VF) in the Appalachian region of the eastern United States.

Dear Mr. Forren,

Please accept these comments on behalf of the Water Sentinels Program of the Tennessee Chapter of the Sierra Club.

I am writing these comments because of concerns for the environmental degradation of the forests, the ephemeral and headwater streams, as well as the perennial streams that will be adversely affected as a result of MTM-VF activities in Kentucky, West Virginia, Virginia and Tennessee or throughout the Appalachian coal-fields. The experience so far in Tennessee with the Zeb Mountain Mine, just one mountain top mine (here called "cross-ridge" mining, but I believe essentially the same as mountaintop removal) cannot be accomplished without devastating destruction of affected ephemeral and headwater streams, as well as the perennial streams.

These mountain top mining operations are massive projects that strip many acres of forest as a first step. The DEIS lists that over 380,000 acres of mature forest will be destroyed by MTM-VF over the next ten years. This loss will destroy wildlife habitat and fragment more habitats. These forests are among the most biologically diverse in the world and are home to such wildlife as the Cerulean Warbler, a species that has been petitioned for listing under the Endangered Species Act.

The DEIS recognizes the value of headwater streams to a river ecosystem. As stated by Doppelt, *et al* 1993, "Even where inaccessible to fish, these headwater streams provide high levels of water quality and quantity, sediment control, nutrients and wood debris for downstream reaches of the watershed. Intermittent and ephemeral headwater streams therefore are often largely responsible for maintaining the quality of downstream riverine processes and habitat for considerable distances."

Tennessee Chapter-Sierra Club  
<http://tennessee.sierraclub.org>  
[www.sierraclub.org/watersentinel](http://www.sierraclub.org/watersentinel)

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8-1-2

Yet, the following quote indicates that the DEIS recognizes that the dangers of valley fills and the potential offsetting values of sediment basins need further study. "Filling or mining stream areas even in very small watersheds has the potential to impact aquatic communities some of which may be high quality or potentially support unique aquatic species."

To supposedly minimize the discharge of mud, silt and sediment into the downstream waters, the mining company installs man-made sedimentation ponds to capture this sediment. This DEIS assumes that these sedimentation ponds will be of great value in protecting downstream waters. Personal experience and observation reveal that most ponds, no matter how well constructed cannot handle the sheer volume of runoff and that the ponds will "short circuit" and discharge levels of mud, silt and sediment into the streams that will adversely affect fish and aquatic life. I am not alone in making these observations. According to the Stormwater Center, "... few (sediment basins) are probably capable of consistently removing 70% of the incoming sediment, much less the 95 to 99% removal that is typically assumed," and measures to increase the solids trapping efficiency of sediment basins are rarely incorporated into the design (Stormwater Center 2003). Stormwater Center (2003). "Improving the Trap Efficiency of Sediment Basins." Technical Note #84, Watershed Protection Techniques. 2(3): 434-439 (<http://www.stormwatercenter.net>)

The DEIS states at III-D-4, "It has not been determined if drainage structure connected with mining can provide some benefit."

The DEIS also states at III-D-7, "Further evaluation of stream chemistry and further investigation into the linkage between stream chemistry and stream biotic community and structure are needed."

At III-D-8, the DEIS states, "While these studies illustrate that mining and valley fills may alter the sediment composition of streams, it is not known if this change may impact functions of streams downstream or how long those impacts may last. Assessment of stream sediment characteristics should be included in any further evaluations or monitoring program for streams downstream from mining and valley fills."

Section III-D-11 clarifies the issue further, "...potential impacts from valley fills to stream chemistry and possible alterations to stream geomorphology were discussed as areas of further need for investigation."

At the Zeb Mountain site in Tennessee, after only a few months of mining (at a mine with a 10-year life span), total suspended solids readings in a major stream (which is home of the federally threatened fish the Blackside Dace) have already been consistently more than ten times the permit limits.

We can do better than strip the forests off of mountain peaks and destroy and fragment wildlife habitat. We can do better than rip the mountain apart to mine a small seam of coal, and filling the valleys with overburden and destroying ephemeral and headwater streams in the process. We can do better to not send mud and silt pollution into larger streams and destroy fish and aquatic life. We can do a lot better than "restoring a mountain" to its original contours, remembering that it will take at least several human lifetimes or longer for the forests to renew themselves. It is better for humans to use non-polluting energy generation systems such as wind and solar power; which will spare wildlife habitat, and protect streams, for our families, for our future.

Tennessee Chapter-Sierra Club  
<http://tennessee.sierraclub.org>  
[www.sierraclub.org/watersentinel](http://www.sierraclub.org/watersentinel)

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I submit that because further studies are needed, this Draft Environmental Impact Statement is incomplete. I suggest on behalf of the Water Sentinels Program of the Tennessee Chapter of the Sierra Club, that the Draft Environmental Impact Statement must be re-done with additional studies on forest health and water quality. The public must also be involved in these studies at all levels of DEIS development. In addition, until there is a final EIS, these mining practices need to cease and desist immediately.

9-2-2

On behalf of the Water Sentinels Program of the Tennessee Chapter-Sierra Club, I appreciate the chance to comment on this Draft Environmental Impact Statement.

Respectfully Submitted,

James H. Baker – Project Leader-Tennessee Water Sentinels

c. Mr. Gary Bowers – Tennessee Chapter Conservation Chair  
Mr. Don Richardson – Tennessee Chapter Vice-Conservation Chair  
Mr. Axel Ringe – Tennessee Chapter Water Quality Chair  
Mr. Scott Dye – Director, Sierra Club Water Sentinels Program  
Mr. Charles A. Rond – Chickasaw Group Chair  
Dr. Allan Lammus – Chickasaw Group Conservation Chair  
File

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3

----- Forwarded by David Rider/R3/USEPA/US on 01/23/2004 09:23 AM -----

Sherman Bamford  
<bamford@rev.net> To: R3 Mountaintop@EPA  
cc: bamford@rev.net  
01/21/2004 07:21 Subject: Mountaintop Removal DEIS

comments

PM

Sherman Bamford  
Virginia Forest Watch  
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Bamford@rev.net

January 21, 2004

Mr. John Forren  
U.S. EPA (3EA30)  
1650 Arch Street Philadelphia, PA 19103  
mountaintop.r3@epa.gov

The following are comments submitted on behalf of Virginia Forest Watch and myself regarding the DEIS for mountaintop removal, valley fills, clean water, habitat, and associated issues. Virginia Forest Watch (VAFW) is a grass-roots based coalition of individuals and environmental groups whose mission is to maintain and restore the natural ecology and biodiversity of woodlands across Virginia through education and citizen participation. Many members of this coalition live, work, and enjoy the natural amenities of the western Virginia area, and face the devastating impacts of mountaintop removal.

Mountaintop removal/ valley fill significantly affects western Virginia and many of our neighboring states in the Appalachian chain: "The geographic focus of this study involves approximately 12 million acres, encompassing most of eastern Kentucky, southern West Virginia, western Virginia, and scattered areas of eastern Tennessee. The study area contains about 59,000 miles of streams. Some of the streams flow all year, some flow part of the year, and some flow only briefly after a rainstorm or snow melt. Most of the streams discussed in this EIS are considered headwater streams. Headwater streams are generally important ecologically because they contain not only

9-2-2

diverse invertebrate assemblages, but some unique aquatic species. Headwater streams also provide organic energy that is critical to fish and other aquatic species throughout an entire river.

Ecologically, the study area is valuable because of its rich plant life and because it is a suitable habitat for diverse populations of migratory songbirds, mammals, and amphibians." (executive summary for the DEIS - underlining for emphasis). The practice has serious, centuries-long impacts on watersheds, forests, and wildlife habitat that we are fighting to protect, and that our neighbors are fighting to protect in nearby states. We believe that mountaintop removal operations/valley fills are one of the top threats to ecosystems in the Appalachian Mountains.

We are concerned that given the inadequate range of alternatives in the draft EIS on mountaintop removal, it appears likely that the EPA would not strengthen protection of our mountains and valleys in Virginia and other states, but would weaken those protections. Adequate streamside buffers would not be retained, dumping of toxins would be tolerated, drinking water would be tainted, and many people would lose the hunting and fishing areas they love. Please establish the strong measures that are needed to retain our natural heritage for future generations.

We are concerned that:

- over 1200 miles of streams have been damaged or destroyed by mountaintop removal
- direct impacts to streams would be greatly lessened by reducing the size of the valley fills where mining wastes are dumped on top of streams
- the total of past, present and estimated future forest losses is 1.4 million acres
- forest losses in West Virginia have the potential of directly impacting as many as 244 vertebrate wildlife species. Mountaintop removal in other states could affect many more species.
- even if hardwood forests can be reestablished in mined areas, which is unproven and unlikely, there will be a drastically different ecosystem from pre-mining forest conditions for generations, if not thousands of years
- without new limits on mountaintop removal, an additional 350 square miles of mountains, streams, and forests will be flattened and destroyed by mountaintop removal mining

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- Streams are smothered by the millions of tons of waste rock and debris produced by mountaintop removal. One hundred thousand acres of wildlife habitat have been destroyed. And generations-old communities have been and continue to be forced to move from their homes because of mountaintop removal mining.

- According to government reports from the U.S. Fish & Wildlife Service as well as the EPA, mountaintop removal mining has devastated bird, fish, and other wildlife habitat in Appalachia and obliterated more than 1,000 miles of streams in West Virginia and Kentucky. Virginia and Tennessee are threatened as well.

- In Virginia, tributaries of the Clinch, Powell, and Holston Rivers are some of the most diverse rivers in North America in terms of mussel, fish, and other aquatic species diversity. According to a report commissioned by the American Fisheries Society, 71.7% of all freshwater mussel taxa in the U.S. and Canada are "considered endangered, threatened or of special concern." (Williams et al, Fisheries Vol. 18, No. 9) Mussels are highly sensitive to sedimentation and contaminants. (Intro. to mollusks section, Neves, Virginia's Endangered Species, Terwilliger, ed., Virginias Endangered Species, McDonald and Woodward Publishing, 1991). These and other watersheds to the west and north (eg, Pound River, Russell Fork, Levisa Fork, and other watersheds) also offer spectacular mixed mesophytic forests, whitewater and canoeing recreation, black bear habitat, Indiana bat habitat, cerulean warbler habitat, other songbird habitat, salamander habitat, and interior forest habitat. Mountaintop removal would have serious impacts on these watersheds and quality of life in them.

-Cerulean warblers, for example, are bearing the brunt of habitat destruction from mountaintop removal and from other habitat destruction: the warblers' key breeding area overlaps Appalachian coalfields, and their population has plummeted 70 percent since 1966.

- Watersheds exist in Virginia are vulnerable to high water events. For example, in July 2001, devastating flooding occurred in the heavily logged and roaded Big Stony Creek watershed, killing one person and wreaking havoc on property owners. Although mountaintop removal was not a factor in this watershed, mountaintop removal has the potential to exacerbate impacts in other watersheds where the practice occurs - whenever flooding and high water events occur.

- The immediate and long-term environmental effects of mountaintop removal coal mining are severe and irreversible, according to recently released studies accompanying a draft Environmental Impact Statement (EIS). Hundreds of miles of streams have been buried, hundreds of square miles of forested mountains flattened,

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and generations-old communities of coalfield residents have been forced from their homes by this extremely destructive mining practice.

10-2-2

According to the draft Environmental Impact Statement (EIS) on mountaintop removal coal mining, the environmental effects of mountaintop removal are widespread, devastating, and permanent. Yet the draft EIS proposes no restrictions on the size of valley fills that bury streams, no limits on the number of acres of forest that can be destroyed, no protections for imperiled wildlife, and no safeguards for the communities of people that depend on the region's natural resources for themselves and future generations.

1-7

We do not understand why the "preferred alternative" for addressing the enormous problems caused by mountaintop removal coal mining is to weaken existing environmental protections. The draft EIS proposes streamlining the permitting process, allowing mountaintop removal and associated valley fills to continue at an accelerated rate. The draft EIS also suggests doing away with a surface mining rule that makes it illegal for mining activities to disturb areas within 100 feet of streams unless it can be proven that streams will not be harmed. This "preferred alternative" ignores the administration's own studies detailing the devastation caused by mountaintop removal coal mining, including:

1-10

You must consider alternatives that reduce the environmental impacts of mountaintop removal and then implement measures to protect natural resources and communities in Appalachia, such as restrictions on the size of valley fills to reduce the destruction of streams, forests, wildlife and communities.

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As the draft EIS would not lessen the devastation or significantly improve the environmental protections from the impact of mountaintop removal mining, the agencies to withdraw this draft EIS and start all over again or at the very least, make substantial changes before issuing a final EIS.

Thank you for considering our comments.

Sincerely yours,

Sherman Bamford  
Virginia Forest Watch

----- Forwarded by David Rider/R3/USEPA/US on 01/23/2004 09:22 AM -----

Lawrence Beckerle  
<lawrencebeckerle@ yahoo.com> To: R3 Mountaintop@ EPA  
cc:  
Subject: Comments on EIS  
01/21/2004 04:34  
PM

January 21, 2004  
Further comments on mountaintop mining EIS  
By Lawrence T. Beckerle

#### VALLEY FILLS

Mining companies are only allowed to use two designs in West Virginia: All material for chimney core valley fill must pass the slate durability test and dump valley fills must be at least 80 percent durable rock through out the entire valley fill.

It would make more sense to have such requirements for just the face of valley fills where stability is a concern. Instead DEP requires that such requirements be met through out the entire length of the valley fill. By forcing coal companies to go to such extremes, regulatory agencies have caused some remarkable conditions. The valley fills are exceptionally well aerated, so oxidation of fill material proceeds at an unusually rapid rate. The release of iron, manganese and selenium is thus also quite rapid. Conversely the reduction of these minerals is minimized, so the release of these minerals into discharge waters is much higher than what would otherwise occur. It is thus a good example of this fundamental truth: When regulatory agencies take things to extremes, more environmental problems are created.

13-3-1

#### ORGANICS

The regulatory emphasis on perennial grasses to meet the requirement for permanent cover has resulted in a hostile environment for many native plants and animals. It has also resulted in a decline of soil improving crop type plants. Reseeding annuals provide permanent cover. (Example: crimson clover provides a permanent cover and acts as a good nurse crop for native plants. It allows warm season natives to quickly overtake it, usually within 18 months from when the native seeds germinate.) Perennial forbs provide permanent cover. Each should be recognized by regulatory agencies as providing permanent cover. In addition a pure stand of native blackberry and/or raspberry vines should be recognized as providing permanent cover.

19-3-1

High Nitrogen Organics Example: A farmer can apply treated sewage sludge to a pasture field and "it's no big deal". But if a coal operator wants to apply sewage sludge to a surface mine, the regulatory requirements are prohibitive. Such misguided actions forfeit the chance to use organics to reduce the amount of oxygen that causes

sulfur, iron, manganese and selenium to be released from mined areas. It also forfeits a chance to feed sulfur-reducing bacteria, which help to reverse acid mine water production and lead to a cleaning of water by precipitating out various metals. So even though my research in 1972 and the research of others have proven the advantages of using treated sludge on surface mines, the regulatory extremes make it impractical for coal operators to productively use this kind of material.

Organics Deficient In Nitrogen Example: "Sawdust" Has been shown to reduce surface runoff rates, increase the productivity of the land, and to reduce acid mine drainage. (Reports also suggest this includes a lowering of selenium.) Decay of sawdust uses as much oxygen as if one were to use it for fuel. Plus the other enhancements of soil life absorb even more oxygen. However regulatory requirements for use of permanent grass for permanent cover make "sawdust" type materials unattractive for coal operators. Typically sawdust is applied through the summer months. Early summer applications are planted to cowpeas, soybeans or other large seeded legume. Before 50 percent leaf drop of the cowpeas or soybeans, crimson clover (and perhaps some cereal rye) plus a perennial clover (white Dutch or red clover) are sown. In about February there is another sowing of either white Dutch or red clover (called a "frost seeding", because freezing and thawing works the seed into the ground.) While these plantings are usually quite lush, it is 18 months to two years from the first seeding before perennial grass can be grown. Thus the fact that regulatory agencies only recognize permanent cover with the establishment of perennial grass puts a bonding release penalty against those who establish other forms of perennial cover and thus virtually prohibits the use of organics such as sawdust to make topsoil.

#### NATIVE PLANTS AND ANIMALS

Excessive competition prevents the establishment of native plants. While there has been attention in recent years about how the use of overly competitive grasses prevents the establishment of trees, there has been little attention about how excessive competition prevents the establishment of native forbs and shrubs.

In prior comments I detailed how the regulatory rule preferences results in mined lands that are excessively dry, and further prevent the establishment of vernal pools and ephemeral pools so necessary to the breeding of several salamanders, toads, frogs, and crayfish. This also prevents the establishment of plants like Nutrush (*Scleria triglomerata*). Nutrush produces a seed (with the appearance of polished white ceramic) that is relished by Bobwhite quail and other seed eating birds.

A few examples of native plants that are put at a severe disadvantage by current rules: Partridge pea is a reseeding native annual that is quite effective at revegetating disturbed sites when competition is limited. This native and others like it are seldom seen on strip mines reclaimed since 1977.

Blackberry thickets where old canes cover the ground are not found on mined land reclaimed since 1977. (Such thickets are necessary for bobwhite quail to find adequate protection from house cats and other nighttime predators.)

Bayberry, Carolina bush pea, orange puccoon, prairie acacia, *Quercus illicifolia*, several of the native bushclovers will spread by root sprouts and/or otherwise form groundcovers into open areas where grass competition is absent.

All these plants are important to the winter survival of animals with needs similar to Bobwhite quail. Normally 60 to 80 percent of wild populations of Bobwhite perish each winter. So the absence of these plants frequently leads to the extinction of bobwhite quail populations. Bobwhite quail were present in all counties of West Virginia before 1977 (and frequently found on old surface mines). After 27 years of SMCRA Bobwhite quail are absent from about 90 percent of West Virginia (and are only found on a couple of these surface mines where exceptional efforts have been made to support quail). Other factors have been involved, but extremist interpretations of SMCRA have also been a major contributor to the decline of bobwhite quail and other birds that have similar habitat requirements.

Instead of being an example what to do to establish native plants (and what to do help restore populations of native animals that are in trouble) current mined land reclamation practices must so comply with bureaucratic cookbook style regulations (which are often a reaction to the latest lawsuit by radicals rather than the intent of SMCRA) that they are generally among the best examples of what not to do.

Bobwhite quail need a mosaic of habitat types. To achieve this mosaic there must be allowances for a number of plantings plans to fit different weather conditions, aspect, slope and other variables. There must be fair allowances for nurse cropping and relay cropping techniques.

Seeds must fall on bare ground or on vegetative litter where quail can find them. Seeds that fall into thick tough grass sods are a good food source for rodents that also chew off shrub and tree seedlings, but not for ground feeding birds such as bobwhite quail.

The regulatory intolerance for reasonable amounts of bare ground in areas with little or no erosion hazard often results in a lack of suitable areas for birds to dust themselves. Dusting is necessary for birds to rid themselves of parasites. Without adequate dusting, their health declines making vulnerable to disease and predators.

Lawrence T. Beckerle, Chairman  
West Virginia State Chapter of Quail Unlimited

19-3-1

19-3-1

Nurse cropping: a nurse crop modifies the soil surface enough that more tender seedlings are able to establish in a soil surface environment that otherwise would be too harsh for them. Crimson clover is an ideal nurse crop, since it begins to decline in May as soil temperatures begin to reach 70 degrees (the temperature at which most native warm season plants germinate.)

Relay cropping: Sometimes a succession of plants is required to make the soil suitable for some perennials, for example: One might sow crimson clover, doveweed (Croton spp.) and partridge pea in August to early fall of 2004. (The Crimson clover would germinate usually within a week. Most of the partridge pea would germinate in March 2005 and most of the doveweed would germinate in May 2005.) Mealy bean, milk pea, and pink bean could be sown into the crimson clover stand in early May 2005. (Some of those seeds would germinate in May and some would not germinate until May 2006.) If soil nitrogen had been severely limiting then one would not plant American beargrass, prairie dropseed, sacaton, smooth or circular paspalum grass until May 2006 (Many of these seeds would germinate immediately. Some would not germinate until May 2007. If any crimson clover were left, it would generally cease to be part of the stand by the end of summer 2006.) Permanent cover is maintained through this succession of plants, but the regulatory agencies currently penalize anyone using such a plant establishment method. Yet this method is most advantageous to Bobwhite quail and to establishing many native plants. When will the regulatory agencies recognize the need for this and other wildlife friendly plant establishment methods?

Fences: As an educational tool I would like to see a fence built along the contour that more or less separates at least some of the areas with slopes less than 25 % slope from those with slopes greater than 25%. Openings in the wire fence should not be less than 2 inches wide by 2.5 inches tall to permit the passage of Bobwhite quail and allow them to distance themselves from predators too large to pass through the wire.

19-3-1

## Kentuckians For The Commonwealth

P.O. Box 1450

London, Kentucky 40743

606-878-2161

January 3, 2004

John Forren  
U.S. EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

REC'D JAN 09 2004

Dear Mr. Forren:

On behalf of Kentuckians For The Commonwealth, I am writing to express our deep opposition to the recommendations contained in the draft EIS on mountaintop mining.

KFTC is a grassroots social justice organization with more than 2,000 members statewide. For more than 22 years we have worked to build citizen leadership and organize low-income communities to improve the quality of life in Kentucky. Our history is rooted in the struggle for justice in the Appalachian coalfields. In the early 1980s, KFTC initiated, fought for and won an unmined minerals tax so that corporations who hold most of the wealth in this region must contribute to the development of local communities. We fought for and won a constitutional amendment that prohibits coal companies from strip mining against the wishes of landowners. Together with our allies, we have worked to strengthen and protect state and federal laws governing water quality and coal mining. And we have worked with thousands of individuals and scores of communities over the past two decades to protect homes and the environment, hold companies accountable, and win meaningful enforcement of mining laws.

Personally and organizationally, we oppose mountaintop removal mining and valley fills. A common sense reading of the Clean Water Act and Surface Mining Laws not only allows but *requires* the government to prohibit the use of valley fills and mountaintop removal. These practices are immoral and illegal and should be stopped.

Let me be very clear why we oppose the conclusions reached in the EIS document:

1. The recommendations are a sham and a shame. They betray the original purpose of the EIS.

The stated purpose of this document was:

*"To evaluate options for improving agency programs under the Clean Water Act (CWA), Surface Mining Control and Reclamation Act (SMCRA) and Endangered Species Act (ESA) that will contribute to reducing the adverse environmental impacts of mountaintop removal operations and excess spoil valley fills in Appalachia."*

The EIS report was originally requested by coalfield citizens and environmental supporters in order to identify ways to better protect our land, water and people. Indeed, the studies contained within this 5,000-page document show that the damage caused by mountaintop removal mining is more widespread and severe than previously known.

Yet the report was hijacked by the coal industry and its cronies within the Bush administration. Rather than addressing the serious harm caused by mountaintop removal mining, its recommendations focus on issues of "government efficiency" and the need to "provide a basis for more predictable business and mine planning decisions." Based on an internal memo from the office of Deputy Secretary of the Interior (and a former coal industry lobbyist), it is clear that the Bush Administration seized this opportunity to aid the coal industry at the expense of local communities and the environment. The draft report is loaded with ways to gut existing water protections and make it easier for the industry to continue with its full-scale assault on our communities, environment, and hope for the future.

## 2. The report ignores its own findings.

KFTC welcomes the scientific studies that document the widespread and irreversible damage the coal industry is doing to our state and region. We've known and experienced these problems in Kentucky for too long. Mountaintop removal and valley fills bury and destroy important headwater streams, destroy biologically rich forest and stream ecosystems, damage drinking water sources used by millions of people, cause frequent and severe flooding, and wreck the quality of life in mountain communities.

Yet the three alternatives proposed would do nothing to end or minimize this destruction. All three so-called alternatives will increase the ease and rate of destruction and make MTR an even more attractive option for the coal industry.

Below are a few examples of the environmental damage documented, and then ignored, within the EIS.

- 724 miles of streams across the Central Appalachian region were buried by valley fills between 1985 and 2001 (many more miles have been permitted but not yet buried);
- an additional 1,200 miles of streams have already been impacted by valley fills;
- selenium was found only in those coalfield streams below valley fills (selenium is a metalloid that, according to the EPA, "can be highly toxic to aquatic life even at relatively low concentrations");
- aquatic life forms downstream of valley fills are being harmed or killed;
- without additional restrictions, a total of 2,200 square miles of Appalachian forests (6.8 percent) would be eliminated by 2012 by large-scale mining operations (this is an area that would encompass Floyd, Knott, Leslie, Letcher, Perry and most of Harlan counties in eastern Kentucky; or Hopkins, Daviess, Union, Muhlenberg and Webster counties in western Kentucky);
- without additional environmental restrictions, mountaintop removal mining will destroy an additional 600 square miles of land and 1000 miles of streams in the next decade.

## 3. The report mentions, and then immediately rejects, any proposals that would restrict the ability of the coal industry to bury Appalachian streams under valley fills—in other words any proposal that would require the coal industry to obey the law.

The EIS fails to give meaningful consideration to any options that would reduce the destruction to water, land, public welfare and the quality of life in local communities. Some worthy ideas that received no consideration were:

- Enforcing the Clean Water Act, which prohibits the dumping of waste in streams.
- Restricting valley fills to certain types of streams.
- Restricting the size of allowable valley fills from more than 250 acres to just 35 acres.
- Setting an upper limit on the total number or percentage of streams allowed to be impacted.
- Labeling the streams in the region as "high value," which would kick-in other parts of the Clean Water Act that could restrict the use of valley fills.
- Using the anti-degradation rules of the Clean Water Act to prohibit the use of valley fills.

The report dismisses most of these options out-of-hand, claiming there is not enough "science" to support them. It is hard to imagine what additional scientific evidence is needed to demonstrate that burying hundreds of miles of Appalachian headwater streams, eliminating thousands of square miles of forests, and leveling the oldest mountains in the world causes irreparable harm and should be stopped.

And if the science is not enough, just open your eyes and use your common sense.

The report also rejects size limits on valley fills because the "economic study results were determined to have limitations and were not suited for establishing alternatives." In truth, the government's economic studies showed that even the strictest size limit would have a minimal economic impact on the economy and jobs.

## We oppose all three of the so-called alternatives contained with the EIS report.

KFTC opposes Alternatives #1, 2 or 3 contained within the EIS report. None of these options will protect our water. None of these options will protect our communities. None of these options will shape a better future for Kentucky or the region. They are a sham and a shame. They do nothing to address the real problems of our region. Rather, they will only make it easier for the coal industry to seek and obtain permits to continue with the total destruction of our land, water and people.

It is notable that all three alternatives, even the one called "status quo" would weaken existing water protections. All three options call for the elimination of the stream buffer zone rule that has been in existence for 25 years. This rule, known as SMCRA regulation 30 CFR 816.57, prohibits mining activity within 100 feet of intermittent and perennial streams. Using the EIS process to eliminate this protection is cynical and outrageous behavior. KFTC believes this rule should be strictly enforced for valley fills and in all other cases.

KFTC also strongly opposes the report's support for a rule change enacted one year ago by the Bush administration which changed the definition of "fill" in order to allow the Corps of Engineers to grant permits for valley fills under the Clean Water Act. We believe that valley fills created in the process of mining for the disposal of mining waste are a clear violation of the CWA.

In conclusion, we believe that the Draft EIS document is a shameful gift to the coal industry and a betrayal of our Appalachian communities. I urge the government to reject the three alternatives offered in this document and go back to the drawing board. Give meaningful consideration to options that would protect our water, forests and land from further destruction. Support the meaningful enforcement of existing laws. Reject efforts to shred and weaken water protections. Have the courage to do what is right, and in the process help us create a better future in Kentucky and throughout the Appalachian region.

Sincerely,

*Teri Blanton*  
Teri Blanton  
Chairperson  
Kentuckians For The Commonwealth

----- Forwarded by David Rider/R3/USEPA/US on 01/08/2004 11:30 AM -----

KFTC  
<info@kftc.org> To: R3 Mountaintop@EPA  
cc:  
01/06/2004 01:05 Subject: MTR EIS comments  
PM

Kentuckians For The Commonwealth  
P.O. Box 1450  
London, Kentucky 40743  
606-878-2161

January 3, 2004

John Forren  
U.S. EPA (3ES30)  
1650 Arch Street  
Philadelphia, PA 19103

Dear Mr. Forren:

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"To evaluate options for improving agency programs under the Clean Water Act (CWA), Surface Mining Control and Reclamation Act (SMCRA) and Endangered Species Act (ESA) that will contribute to reducing the adverse environmental impacts of mountaintop removal operations and excess spoil valley fills in Appalachia."

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Yet the report was hijacked by the coal industry and its cronies within the Bush administration. Rather than addressing the serious harm caused by mountaintop removal mining, its recommendations focus on issues of "government efficiency" and the need to "provide a basis for more predictable business and mine planning decisions." Based on an internal memo from the office of Deputy Secretary of the Interior (and a former coal industry lobbyist), it is clear that the Bush Administration seized this opportunity to aid the coal industry at the expense of local communities and the environment. The draft report is loaded with ways to gut existing water protections and make it easier for the industry to continue with its full-scale assault on our communities, environment, and hope for the future.

2. The report ignores its own findings.

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headwater streams, destroy biologically rich forest and stream ecosystems, damage drinking water sources used by millions of people, cause frequent and severe flooding, and wreck the quality of life in mountain communities.

Yet the three alternatives proposed would do nothing to end or minimize this destruction. All three so-called alternatives will increase the ease and rate of destruction and make MTR an even more attractive option for the coal industry.

Below are a few examples of the environmental damage documented, and then ignored, within the EIS.

• 724 miles of streams across the Central Appalachian region were buried by valley fills between 1985 and 2001 (many more miles have been permitted but not yet buried);

• an additional 1,200 miles of streams have already been impacted by valley fills;

• selenium was found only in those coalfield streams below valley fills (selenium is a metalloid that, according to the EPA, "can be highly toxic to aquatic life even at relatively low concentrations");

• aquatic life forms downstream of valley fills are being harmed or killed;

• without additional restrictions, a total of 2,200 square miles of Appalachian forests (6.8 percent) would be eliminated by 2012 by large-scale mining operations (this is an area that would encompass Floyd, Knott, Leslie, Letcher, Perry and most of Harlan counties in eastern Kentucky; or Hopkins, Daviess, Union, Muhlenberg and Webster counties in western Kentucky);

• without additional environmental restrictions, mountaintop removal mining will destroy an additional 600 square miles of land and 1000 miles of streams in the next decade.

3. The report mentions, and then immediately rejects, any proposals that would restrict the ability of the coal industry to bury Appalachian streams under valley fills—in other words any proposal that would require the coal industry to obey the law.

The EIS fails to give meaningful consideration to any options that would reduce the destruction to water, land, public welfare and the quality of life in local communities. Some worthy ideas that received no consideration were:

• Enforcing the Clean Water Act, which prohibits the dumping of waste in streams.

• Restricting valley fills to certain types of streams.

• Restricting the size of allowable valley fills from more than 250

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acres to just 35 acres.

• Setting an upper limit on the total number or percentage of streams allowed to be impacted.

• Labeling the streams in the region as "high value," which would kick-in other parts of the Clean Water Act that could restrict the use of valley fills.

• Using the anti-degradation rules of the Clean Water Act to prohibit the use of valley fills.

The report dismisses most of these options out-of-hand, claiming there is not enough "science" to support them. It is hard to imagine what additional scientific evidence is needed to demonstrate that burying hundreds of miles of Appalachian headwater streams, eliminating thousands of square miles of forests, and leveling the oldest mountains in the world causes irreparable harm and should be stopped.

And if the science is not enough, just open your eyes and use your common sense.

The report also rejects size limits on valley fills because the "economic study results were determined to have limitations and were not suited for establishing alternatives." In truth, the government's economic studies showed that even the strictest size limit would have a minimal economic impact on the economy and jobs.

We oppose all three of the so-called alternatives contained within the EIS report.

KFTC opposes Alternatives #1, 2 or 3 contained within the EIS report. None of these options will protect our water. None of these options will protect our communities. None of these options will shape a better future for Kentucky or the region. They are a sham and a shame. They do nothing to address the real problems of our region. Rather, they will only make it easier for the coal industry to seek and obtain permits to continue with the total destruction of our land, water and people.

It is notable that all three alternatives, even the one called "status quo" would weaken existing water protections. All three options call for the elimination of the stream buffer zone rule that has been in existence for 25 years. This rule, known as SMCRA regulation 30 CFR 816.57, prohibits mining activity within 100 feet of intermittent and perennial streams. Using the EIS process to eliminate this protection is cynical and outrageous behavior. KFTC believes this rule should be strictly enforced for valley fills and in all other cases.

KFTC also strongly opposes the report's support for a rule change

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enacted one year ago by the Bush administration which changed the definition of "fill" in order to allow the Corps of Engineers to grant permits for valley fills under the Clean Water Act. We believe that valley fills created in the process of mining for the disposal of mining waste are a clear violation of the CWA.

13-3-2

In conclusion, we believe that the Draft EIS document is a shameful gift to the coal industry and a betrayal of our Appalachian communities. I urge the government to reject the three alternatives offered in this document and go back to the drawing board. Give meaningful consideration to options that would protect our water, forests and land from further destruction. Support the meaningful enforcement of existing laws. Reject efforts to shred and weaken water protections. Have the courage to do what is right, and in the process help us create a better future in Kentucky and throughout the Appalachian region.

1-5

Sincerely,

Teri Blanton  
Chairperson  
Kentuckians For The Commonwealth

January 6, 2004

Mr. John Forren  
U.S. EPA (3EA30)  
1650 Arch Street  
Philadelphia, PA 19103  
[mountaintop.mt@epa.gov](mailto:mountaintop.mt@epa.gov)

**RE: Joint Coal Industry Comments on the Mountaintop Mining/Valley Fill Draft Environmental Impact Statement**

Dear Mr. Forren:

Coal Operators and Associates, the Kentucky Coal Association, the National Mining Association, the Ohio Coal Association, and the West Virginia Coal Association appreciate the opportunity to share our views on this Draft Environmental Impact Statement (EIS) on Mountaintop Mining and Valley Fills (hereinafter, "MTM") in Central Appalachia. This issue is extremely important to our members because many of them utilize coal extraction methods that require the construction of head of hollow fills and valley fills in their coal mining operations in the study area. As recognized by the EIS, MTM operations are generally the most economical and efficient forms of surface mining in this area.

EIS III I-1.

Using valley and head of hollow fills in this region is absolutely necessary, because when mining is conducted in steep slope areas such as Appalachia, the volume of the spoil material is significantly greater than the volume of the

overburden excavated from its original geological location.<sup>1</sup> This is true whether the mining methods are mountaintop mining, contour mining, or even, in many instances, when creating the necessary surface area to begin and support an underground mine. Consequently, the excess spoil must be placed in valley and head of hollow fills. MTM is a major factor in coal production in this area, and accounts for ¼ to 1/3 of Appalachian coal production, and about 95% of the surface mining in West Virginia. EIS III I-23; III N-1. A brief description of the signatory trade associations to these comments follows.

Coal Operators & Associates, Inc. (COA) is a trade association that represents nearly 300 member companies involved in the ownership, leasing, mining, transportation and preparation of coal in Eastern Kentucky; or, supply goods and/or services to the coal mining industry. Our members mine by both surface and underground mining methods and represent the majority of coal mined in Eastern Kentucky.

The Kentucky Coal Association (KCA) is a non-profit corporation whose membership includes large and small, surface and underground coal operators in both the eastern and western Kentucky coal fields. KCA's membership also

<sup>1</sup> The volume of spoil is greater than the overburden that is excavated because the material swells by as much as 25% when it is removed. See *Bragg v. Robertson*, 248 F.3d 275, 286 (4<sup>th</sup> Cir. 2001), cert. denied, 122 S.Ct. 920 (2002). See also *Illinois South Project, Inc. v. Hodel*, 884 F. 2d 1286, 1292 (7<sup>th</sup> Cir. 1988)(recognizing that overburden from mining may swell in the range of 15-40% depending on how compact it was in its natural state).

includes a wide range of businesses associated with the coal industry. The KCA seeks to promote the best interests of the Kentucky coal industry.

The National Mining Association (NMA) is a national trade association that includes the producers of most of the nation's coal, metals, industrial and agricultural minerals; the manufacturers of mining and mineral processing machinery, equipment and supplies; and the engineering and consulting firms, financial institutions and other firms serving the mining industry.

The Ohio Coal Association is a non-profit trade association that is dedicated to representing Ohio's underground and surface coal mining production. Today, the Association represents close to FORTY coal producing companies and over FIFTY Associate Members, which include suppliers and consultants to the mining industry, coal sales agents and brokers and allied industries. As a united front, the Ohio Coal Association is committed to advancing the development and utilization of Ohio coal as an abundant, economic and environmentally sound energy source.

The West Virginia Coal Association (WVCA) is a State coal trade association representing the interests of companies engaged in the extraction of coal in the State of West Virginia. WVCA's producing members account for 98% of the Mountain State's underground and surface coal production. WVCA also represents 250 associate members that supply an array of services to the mining industry in West Virginia. These associate members include permitting

consultants, engineering firms, mining equipment manufacturers, coal transportation companies, coal consumers and land and mineral holding companies. WVCA's primary goal is promoting the continued viability of the West Virginia coal industry by supporting and facilitating environmentally responsible coal removal and processing through reasonable, equitable, and achievable State and Federal policy and regulation.

Our comments are divided into several sections that will convey our views. First, we will provide some background information on the statutory and regulatory framework for mining in general and MTM in particular, under which our members operate. Second, we provide extensive general comments on the EIS. This section explains how the EIS shows that MTM has minimal individual and cumulative effects on the environment, highlights some of the significant positive aspects of MTM, and discusses its programmatic nature. The document will demonstrate that, based on the evidence in the EIS record, the best alternative to select would be Alternative III, including an explanation of why Nationwide Permits (NWP) under Clean Water Act (CWA) Section 404 are appropriate in most cases for coal mining operations including mountaintop mining, and why individual permits are normally not appropriate in most MTM situations. Next, our comments analyze all 17 action items contained in the EIS. Third, we provide a section of specific comments on aquatic, terrestrial, and community impacts of MTM.

## **I. Background**

### **a. Mining in General, and MTM in Particular, is Very Heavily and Closely Regulated, but is also Expressly Sanctioned by Federal Law**

Mining is one of the most heavily regulated industries in American history. There are several statutes that specifically regulate mining, and many other general laws that are applicable to mining operations. Just some of the most significant Federal laws include the Surface Mining Control and Reclamation Act (SMCRA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Endangered Species Act (ESA), and the Mine Safety and Health Act. In addition to all of these laws, and the thousands of pages of Federal rules in the Code of Federal Regulations pursuant to these laws that are designed to protect the environment and the public, there are hundreds of State laws that regulate mining.

There are also several provisions in these laws and regulations that apply even tougher standards for some of the activities that take place at MTM operations. Although the law sets tough standards for operators mining in these areas, the indisputable logical corollary to this is that Congress has specifically sanctioned MTM by enacting these provisions. Some of these provisions include SMCRA sections 515(b)(3)(requiring restoration of approximate original contour); 515(b)(22)(governing excess spoil placement); and 515(c)(2) and (3)(expressly

discussing MTM techniques). *See also* Office of Surface Mining (OSM) regulations at 30 C.F.R. 785.14 (MTM); 30 C.F.R. Part 824 (MTM); 30 C.F.R. § 780.29 (stream channel diversions); 30 C.F.R. 816.57 (Stream Buffer Zone Rule); 30 C.F.R. § 816.72 (Disposal of Excess Spoil in Valley Fills); 30 C.F.R. § 816.151(d)(5) (relocation of natural stream channels). The EIS itself recognizes that "Congress acknowledged the necessity of valley fill construction in streams [in SMCRA § 515(b)(22)]." EIS II D-2.

OSM regulations also recognize the necessity of mining in or near streams. 30 C.F.R. § 816.43 expressly allows and regulates the diversion of streams. MTM and mining in or near streams is presumed necessary and valid by Congress and the regulatory agencies, such as the OSM, so long as adverse effects to offsite areas are minimized. There are additional protections in the law for areas that are designated as unsuitable for mining. In extraordinary circumstances, States may designate specific areas in § 522(a)-(d) of SMCRA, if the evidence in the record supports such findings by the State government. *See also* 30 C.F.R. §§ 761-764.

Given all of these statutory and regulatory requirements that must be met, mining operations produce volumes of analyses and plans before they are issued a permit to build a mine. During this process, the public is provided with numerous opportunities to provide input and comment on the permit application, and may object to the regulatory authority. 30 U.S.C. §§ 1263-1264. Even after the permit

is issued, Federal and State laws provide for regular monthly and quarterly inspections of surface coal mining operations to ensure their compliance with applicable laws, regulations, mine plans, and their permit conditions. 30 C.F.R. Part 842; 30 C.F.R. § 840.11. In addition, mines are subject to inspection following any citizen complaint giving rise to a concern that a violation of SMCRA or regulations has occurred. 30 C.F.R. § 842.12.

The CWA, like SMCRA, is also crystal clear that valley fill construction for excess spoil placement is permissible under Federal and State law. Environmental groups have repeatedly tried and failed to convince appellate courts that MTM is somehow illegal based on misguided interpretations of the CWA, SMCRA, and their implementing regulations. However, the 4<sup>th</sup> Circuit Court of Appeals has clearly held that such a view of the law is wrong because: (1) EPA's and COE's interpretation of "fill material," which expressly included coal mining overburden placement in waters of the U.S. (including the streams at issue in the EIS), was a reasonable interpretation of the CWA; and (2) SMCRA anticipates that excess spoil from MTM "could and would" be placed in waters of the U.S.<sup>2</sup>

As the EIS correctly notes, both the CWA and SMCRA recognize that incursions and disturbances of streams are frequently unavoidable. EIS II C-30. Congress, the administrative agencies, and the courts all recognize that Federal

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law anticipates that excess spoil will be placed in streams. The real question is not whether MTM or excess spoil placement is permissible, but rather how to regulate it. Therefore, the question is not what happens to the stream segment that is filled, but whether the downstream impacts or impacts to areas outside the permit area are so significant that they cannot be avoided or satisfactorily mitigated. With this background and this issue in mind, we next turn to an examination of MTM, how it has been analyzed over the years, and what this most recent EIS teaches us about MTM.

**b. MTM/VFs have been Studied for Decades, and those Studies Have Consistently Demonstrated that they Are Acceptable Mining Methods**

As demonstrated above, Congress was well aware of MTM/VF techniques when it enacted the SMCRA legislation, and recognized the legitimacy of these practices through Federal law. MTM/VF practices have been extensively studied and analyzed since that time as well. For example, in 1979, EPA authored a report concluding that MTM is actually environmentally desirable, and that head of hollow fills can reduce adverse environmental impacts. EPA concluded<sup>3</sup> that:

<sup>2</sup> See *Kentuckians for the Commonwealth v. Rivenburgh*, 317 F. 3d 425, 443 (4<sup>th</sup> Cir. 2003).

<sup>3</sup> *Environmental Assessment of Surface Mining Methods: Head-of-Hollow Fill and Mountaintop Removal, Interagency Energy-Environment R&D Program Report* (hereinafter: "EPA EA of Surface Mining Methods"); U.S. EPA (July 1979) p. 6.

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(1) Mountaintop removal mining is an environmentally desirable surface mining technique in the steep sloped terrain of southwestern West Virginia and eastern Kentucky when conducted in compliance with existing reclamation criteria; and

(2) Head-of-hollow fill reclamation can reduce environmental impacts occasionally associated with other reclamation practices such as contour regrading in steep terrain or downslope spoil casting. Specifically, these improvements are realized in erosion and sedimentation control, spoil stabilization, revegetation success and land use potential.

In 1989, the Department of Interior prepared a report to Congress on mountaintop mining. This report found that OSM and other Federal agencies are committed to studying the environmental impacts of MTM thoroughly. One of the key studies<sup>4</sup> attached to the Congressional report, the WV Governor's Report, found that "numerous regulatory programs are in place to assure protection of State water quality," and also found "...no significant evidence of widespread or routine violations of State and Federal water quality standards..." See *WV Governor's Report* at ENV9-10. It concluded that, "On balance...the positive

<sup>4</sup> "State of West Virginia Governor's Task Force on Mountaintop Mining and Related Practices," (December 1998)(hereinafter "WV Governor's Report").

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impacts of mountaintop removal mining can outweigh the negative impacts." See *Id.* at People-7.

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The current EIS contains an additional 30 studies on MTM/VF, and continues the trend of careful and continuous study, evaluation, and improvement of MTM/VF practices. A summary and analysis of the contents of this latest comprehensive analysis of MTM/VF is explained below.

## II. General Comments on the EIS

### a. The EIS Demonstrates that in Most Areas of Concern, MTM Does Not Raise Significant Issues

Inspector Gregory:

"Is there any other point to which you would wish to draw my attention?"

Holmes: "To the curious incident of the dog in the night-time."

"The dog did nothing in the night-time."

"That was the curious incident," remarked Sherlock Holmes.

From *"The Adventure of Silver Blaze"* by Arthur Conan Doyle

#### i. Overall Impacts of MTM

The EIS commissioned 30 comprehensive scientific studies over a span of four years to determine the impact of MTM on the study area, which includes parts of four different States in Appalachia. Based on this information, it is clear that the overall impact of MTM on the study area is not significantly adverse. For example, studies found that despite the size of these MTM operations, about 98% of the streams in the study are not directly impacted by MTM. EIS III D-2. Only slightly more than 1% of streams are actually filled, and many of those "streams"<sup>5</sup> consist of areas that either flow only intermittently for part of the year, or are dry channels that contain water only immediately after a rainstorm<sup>6</sup>. The EIS acknowledges that its estimates of potential future stream losses are overstated because they do not take into account avoidance, minimization, and mitigation already required by the 2002 Nationwide Permit (NWP) 21. EIS IV B-3. Such estimates are probably even more inflated, given that changes to the status quo made by any of the three Alternatives would improve environmental protection and better coordinate the CWA and SMCRA. EIS II B-1. The studies also found that even when aggregating all MTM activity over the past decade, about 97% of the study area was undisturbed by MTM. EIS II C-62. Finally, the evidence shows that MTM has been decreasing, both in numbers and in average size in recent years. EIS II C-5.

<sup>5</sup> Regulatory agencies, such as the COE, define "streams" much more broadly than the general public does. More common definitions of the term say it includes only "A body of *running* water;" or "a steady current of a fluid." (emphasis added) See American Heritage Dictionary, 2<sup>nd</sup> Edition.

<sup>6</sup> In Kentucky and Virginia, many of the fills are not valley fills but rather head of hollow fills impacting only stretches of ephemeral streams.

In addition to the fact that these overall impacts are minimal, one must recognize that "...surface mining is a temporary use of the land and, with proper mining and reclamation techniques, the land is not irretrievable for a variety of future land uses." EIS IV F-1. Therefore, many of the impacts listed above, such as forest fragmentation will ultimately be a temporary phenomena.

## **ii. Specific Impacts of MTM Found Insignificant**

### **1. Air Quality Impacts**

The EIS found that air quality concerns were not an issue with MTM. MTM has not been considered a major source of air pollution since it does not meet the criteria for major source air quality permits under Title V of the CAA. EIS III V-3. Moreover, except for ozone, monitoring stations reported good air quality for all criteria air pollutants. EIS III V-1. OSM regulations already specifically require an air pollution control plan. 30 C.F.R. § 780.15.

In addition, the Mine Safety and Health Administration (MSHA), maintains separate air monitoring requirements for mining operations to protect mine workers, and has established enforceable exposure limits for respirable coal dust. EIS III V-4 MSHA regulations also require every mine to submit a ventilation

system and methane and dust control plan every six months. *Id.* Finally, MSHA is required by statute to make surprise inspections of every surface mine in the United States at least twice each year. 30 U.S.C. § 813(a).

### **2. Impacts to Land, Blasting, Stability, Scenery, and Forest Cover Are Insignificant**

The studies found that land use is not a significant issue because "existing regulatory controls are adequate to address the issue." EIS II A-7. Likewise, blasting is not considered a significant issue with MTM because the studies concluded that "existing regulatory controls provide adequate protections from coal mining related blasting impacts on public safety and structures including wells." EIS II A-6. The EIS found that stability of valley fills is not a significant issue because there were "very low occurrences of stability failures, and those identified failures were generally minor in nature and posed no risk to public safety." EIS II A-8. Finally, the EIS found that scenery and culturally significant landscapes have statutory and regulatory controls that are adequate to address the issue. *Id.*

The EIS explains that only 3.4% of the forested land in the study area was changed to grassland by surface mining<sup>7</sup> over the past ten years (in WV, Valley

<sup>7</sup> For example, the EIS predicts that if MTM continues at its current rate, there may be a potential loss of up to 3.4% of the salamander population in the study area. EIS Appendix I at 92-93. Although we do not necessary concede that losses would be this dramatic, even if the estimate is correct, the EIS predicts that

Fills (VF) account for only 0.7% of forest loss). EIS Appendix I at V. Therefore, MTM does not have a significant adverse effect on forest cover, particularly when one considers that some of this land will be reforested through reclamation, which will be further facilitated by pending changes in OSM rules to encourage tree planning. Statistics from the EIS show that there is actually more forest cover today than there was in 1950.<sup>8</sup> EIS III R-2. In addition, this land will eventually revert to forest through natural succession. EIS IV A-4.

The EIS concludes that "...impacts to soils from MTM/VF are not irreversible and that over time, soils similar to those that existed prior to mining are likely to be re-established on reclaimed mine sites." EIS IV C-7. In addition, providing grassland areas and edge habitat in this region will have positive environmental benefits for many species that require diverse habitats to flourish. EIS Appendix I at 15. Fragmented forests have more edge habitat, and the creation of more edge habitat often corresponds to an increase in local species diversity as "edge" species are attracted to the region. EIS Appendix I at 43.

### **3. Exotic and Invasive Species are not Invading; Threatened and Endangered Species are not Threatened**

there would still be an abundant salamander population of over 35 billion in the study area—or about 100 salamanders for every man, woman, and child in the United States.

<sup>8</sup> This trend is continuing. Data from the U.S. Forest Service indicates that the average cubic foot of forest growth exceeds the average annual rate of forest loss for ALL states in the region. EIS IV C-2.

The studies found no evidence that MTM has contributed to the spread of invasive and exotic species in Southern WV. EIS III F-16; Handel 2001. Nor is there a significant issue regarding the Endangered Species Act (ESA). The biological opinion issued in 1986 states that "...surface coal mining conducted in accordance with properly implemented State and Federal regulatory programs under SMCRA would not be likely to jeopardize the continued existence of listed or proposed species, or result in the destruction or adverse modification of designated or proposed critical habitats." EIS IV D-5. Another EIS study says that "...ample forest will remain in the West Virginia portion of the study area to maintain relatively high PEC<sup>9</sup> scores, [but] impacts to many forest interior bird species are likely to occur." EIS Appendix I at 90. Finally, the EIS notes that "there are no significant differences among the No Action Alternative and Alternatives I, II, and III in terms of their ability to protect [threatened and endangered] species." EIS IV D-7.

### **4. Water Issues are not Significant**

The EIS found that flooding due to MTM is not a significant concern. The EIS found that downstream flooding potential is not significantly increased by existing mining practices so long as approved drainage control plans are properly

<sup>9</sup> PEC stands for potential ecological condition, and is a value calculated to determine the ecological health of a defined landscape scale, usually a watershed level, but this cumulative impact study did so on a State

applied. EIS IV I-7; Appendix H. In addition, "...valley fills do not seem to be causing excessive sediment deposition on the first and second order streams." EIS III D-8. "...[T]he substrate characteristics of the filled, filled/residential, and mined classes were not substantially different from the unmined class." EIS III D-13. In other words, the EIS found no significant sediment problem that could be attributed to MTM. Finally, "the EIS studies did not conclude that impacts documented below MTM/VF operations cause or contribute to significant degradation of waters of the U.S." EIS II D-9.

The EIS suggests that changes in water chemistry downstream from MTM operations are cause for concern. EIS III D-7. First, with respect to USEPA's water chemistry data, the USEPA identified problems with the quality assurance/quality control (QA/QC) implemented during the collection and analysis of the water chemistry data, causing all the water chemistry data to be called into question.<sup>10</sup> Assuming these QA/QC issues do not change the overall conclusion that significant differences exist between the filled and unmined sites and between the filled/residential and unmined sites, supplemental studies conducted in conjunction with the MTM/VF EIS studies conclude that neither the changes in the biological community, nor changes in water chemistry in the filled sites appear to have significant adverse impacts on the stream function with respect to

by State level. According to the EIS, PEC is an effective measure of biologic integrity. EIS Appendix I at 17.

downstream segments. Instead, these studies found sites influenced by mining continue to support abundant populations with representatives of all the functional feeding groups and stream function does not appear compromised at these sites.<sup>11</sup>

Second, the evidence does not show a clear impact on the study streams by the mountaintop mining/valley fill activities. To the contrary, the data establishes that MTM/VF activities result in changes in water chemistry and biological communities typical of any large scale development project, e.g. road construction or residential development. Such changes in community structure are more likely the result of changes in temperature regimes, typical whenever ponds, dams or municipal discharges are present. *Id.* Therefore, it is fair to say that any statement in the EIS attributing a cause and effect to a single activity where others such as temperature or ponds which provide a different food source are playing a role must be considered with caution. In addition, it should also be noted that USEPA reported studies compare a mined site on a third, fourth or fifth order stream with an unmined site on a first or second order stream. No unmined sites were selected on third, fourth or fifth order streams. Changes in water chemistry and biological communities between first or second order streams and third or fourth order streams are expected. USEPA failed to consider changes associated with

<sup>10</sup> These problems are discussed in the report "A Survey of the Water Quality of Streams in the Primary Region of Mountaintop/Valley Fill Coal Mining" (April 8, 2002).

<sup>11</sup> Arch Coal Supplemental MTR/VF EIS Study Report, April 2002.

increasing stream order in data interpretation and presentation to the public. This flaw in the data must be addressed in the Final EIS.

Finally, concerns about elevated selenium at test sites are minimized when considered in light of the latest scientific data on aquatic toxicity of selenium. EPA's current nationally recommended chronic criterion for selenium (5ug/l in the water column) and 20 ug/l acute criterion have been adopted by many States and utilized in water quality standards programs. However, based upon the latest scientific knowledge on selenium toxicity, EPA made a decision to update the acute and chronic criteria for selenium and published, in March 2002, a draft selenium criteria document.<sup>12</sup> EPA's draft document proposes a revised freshwater acute criterion (185 ug/l) in the water column and 7.9 ug/g (dry weight) in fish tissue that is considerably higher than the current national criterion. It is important to note that in some geographic areas in the study area background levels of total Se exceed 20 ppb, yet no acute toxic effects are observed. Therefore, the levels of concern expressed in the EIS studies become much less significant when considered pursuant to the agency's proposed revised criteria.

The EIS found that "Overall, the abundance of macroinvertebrates was found to be similar in upstream and downstream stations or to be slightly higher in

<sup>12</sup> See *Draft Aquatic Life Water Quality Criteria for Selenium 2002*, EPA Contract No. 68-C6-0036 (March 2002 Draft).

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downstream stations. EIS III D-9. This strongly suggests that MTM operations are not having an adverse impact on downstream water quality. Likewise, the studies note that: "Biological conditions in the mined sites generally represented very good conditions, although a few sites did score in the good and poor range." EIS III D-12. This strongly suggests that MTM can be conducted with minimal effects on the environment, provided that appropriate mitigation techniques are applied.

Environmentalists have alleged that all of the above areas are at severe risk due to MTM. As explained above and in the EIS, the scientific data from the 30 comprehensive studies does not support the environmentalists' alarmist predictions. At the end of the day, the EIS observed that: "Watershed impacts directly attributable to mining and fills could not be distinguished from impacts due to other types of human activity." EIS II C-74. As Sherlock Holmes observed, the "dog that didn't bark" is a clue in and of itself.

**b. The EIS Demonstrates that MTM has Numerous Positive Benefits that Suggest it Should be Permitted**

**i. MTM has Provided Environmental Benefits**

MTM has resulted in improvements in water quality in several areas. Studies commissioned by the EIS have found that MTM resulted in improvements

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in pH, iron, and manganese levels downstream. EIS III D-7. As the EIS notes, “the Appalachian coalfields provide almost limitless opportunities for watershed improvement.” EIS IV B-9. Such opportunities are presented both in the form of remining operations, which can greatly improve water quality and improve public safety by removing highwalls, as well as mitigation conducted as part of the MTM process.

Runoff and groundwater are stored in valley fills. EIS IV B-4. Valley fills hold approximately 7 times more water as their pre-mining counterparts. EIS III H-4. This water is slowly released downstream, increasing base flows, lowering peak discharges, and moderating water temperatures. EIS IV B-6. An increase in base flow may eliminate intermittent flow, improving an intermittent stream to a perennial stream.

MTM activity also creates ponds. The EIS recognizes that functions of man made ponds exist and may be considerable, and may tend to limit the effect of disturbances on the downstream watersheds. EIS III C-18 & 20; Wallace B. in EPA et al. March 20, 2000. Wetland areas are being created at reclaimed mine sites. It is anticipated that wetland acreage has actually increased as a result of these steep slope [MTM] activities. EIS III D-19. These newly created wetland habitats, in conjunction with results from other mining reclamation efforts, have created habitat, such as grasslands, edge habitat, and scattered ponds that are

important for game species such as wild turkey, bobwhite quail, ruffed grouse, and white tailed deer. EIS III F-11. Some forest edge and grassland species (certain reptiles, birds, mammals, raptors, etc.) are positively impacted by the terrestrial habitat diversity created by MTM. EIS II C-75. The EIS documents that there has been an increase in the abundance of edge and grassland bird species at reclaimed MTM sites. EIS III F-7.<sup>13</sup>

#### **ii. MTM has Provided Economic and Social Benefits**

MTM has provided immeasurable economic and social benefits to one of the poorest regions of the United States. These mines provide high paying jobs, economic activity for other businesses, taxes for governments and schools, roads (EIS III J-2), and land that, in certain cases, can be used for commercial development.

The population in the study region is exceptionally poor. According to the Census, over 1/3 of the residents in 24 counties in the study area are below the poverty level. EIS III P-2. What the study area lacks in personal income, it makes up for in natural resources. The area contains over 28.5 billion tons of coal. EIS ES-2 MTM/VF operations are generally the most economical and efficient forms of surface mining in steep slope Appalachia and provide for the highest possible

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<sup>13</sup> See also Wood and Edwards, 2001; Canterbury 2001.